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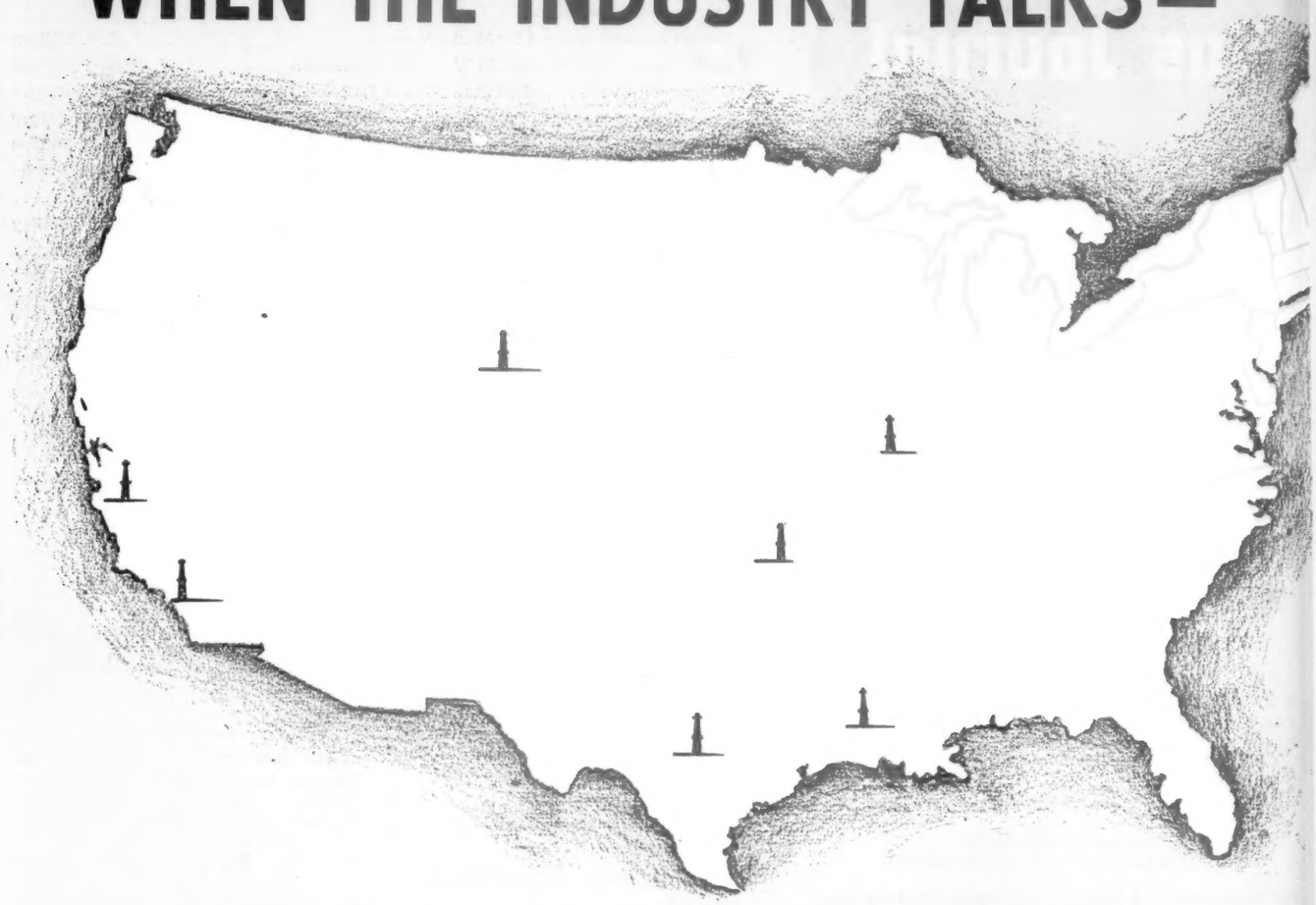
WHEN THE INDUSTRY TALKS—



IT PAYS TO LISTEN

LOS ANGELES BASIN

"... Squeezing cement through shot perforations to cement off water entry from above and below a producing horizon, is only one of the successful applications we have found for the Baker Cement Retainer here in the Basin."

SAN JOAQUIN VALLEY

"... So we used a Cement Retainer to do a multiple batch squeeze job around the shoe ... water was coming in from above ... and we got a perfect shut-off."

ILLINOIS BASIN

"... Yes, and we also use it very successfully to perform squeeze jobs on casing leaks."

MID CONTINENT

"... We found that plugging back is no problem with the Baker Cement Retainer method."

LOUISIANA

"... Sure we had bottom water trouble on No. 2, but not after we did that squeeze job with a Baker Cement Retainer."

ROCKY MOUNTAIN TERRITORY

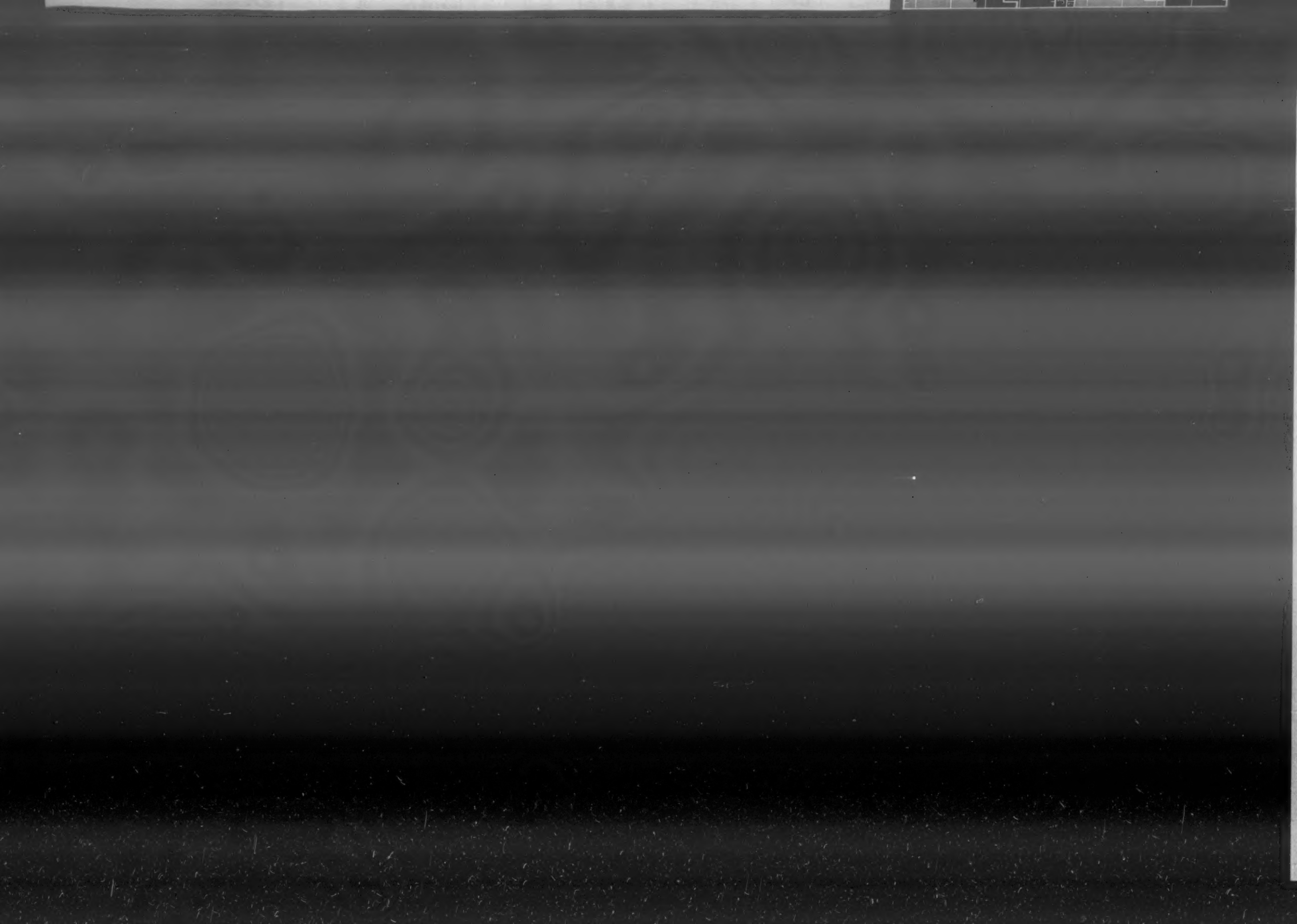
"... Of course you can use that Baker Cement Retainer for a Casing Bridge Plug ... and it makes a mighty efficient one, too."

TEXAS

"... And by squeeze cementing we reduced the gas/oil ratio from 26,300:1 to 366:1 ... and the Baker Cement Retainer functioned perfectly."

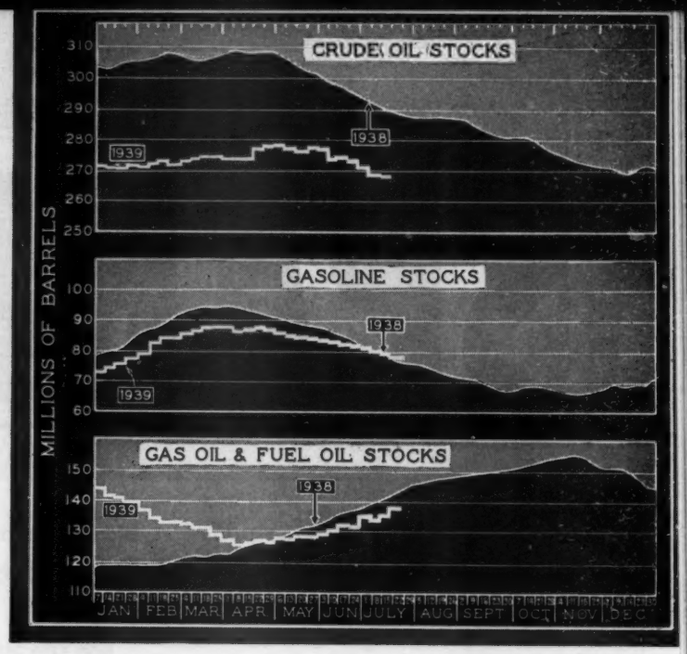
COMPLETE DETAILS concerning the Baker Cement Retainer and its many important applications are given in Baker Broadcast No. 17-A. A copy of this comprehensive 40-page treatise will gladly be sent upon request.

BAKER OIL TOOLS INC., Box 71, Huntington Park, California



Trends

Greater Reserves Operation Factor Next Five Months



SEVERAL facts stand out in the semiannual statistical and forecast features of this issue which will have a bearing on the industry's operations over the rest of the year. Summarized, the data show that the industry through the remainder of 1939 will have a greater market than last year, with a larger potential supply which will have to be controlled to prevent a continuance of conditions which prevailed the first 6 months.

CRUDE PRODUCTION *3,585,172 bbl. daily average—up 50,985 bbl. One year ago 3,349,378 bbl.*

CRUDE STOCKS *268,119,000 bbl. as of July 15—down 1,229,000 bbl. One year ago 289,312,000 bbl.*

GASOLINE STOCKS *77,960,000 bbl. as of July 22—down 1,456,000 bbl. One year ago 77,835,000 bbl.*

GAS AND FUEL OIL STOCKS *137,177,000 bbl. as of July 22—up 692,000 bbl. One year ago 141,941,000 bbl.*

REFINERY RUNS *3,385,000 bbl. daily week ending July 22—down 5,000 bbl. One year ago 3,221,000 bbl.*

In regard to demand, the refiners are assured outlets for gasoline and several other products which will establish new records over the same periods in the past. The industry so far as outlets are concerned has fully recovered from last year's leveling off in total demand and is headed toward new yearly totals in 1939 with many willing to predict, at this early date, that still further gains will materialize in 1940.

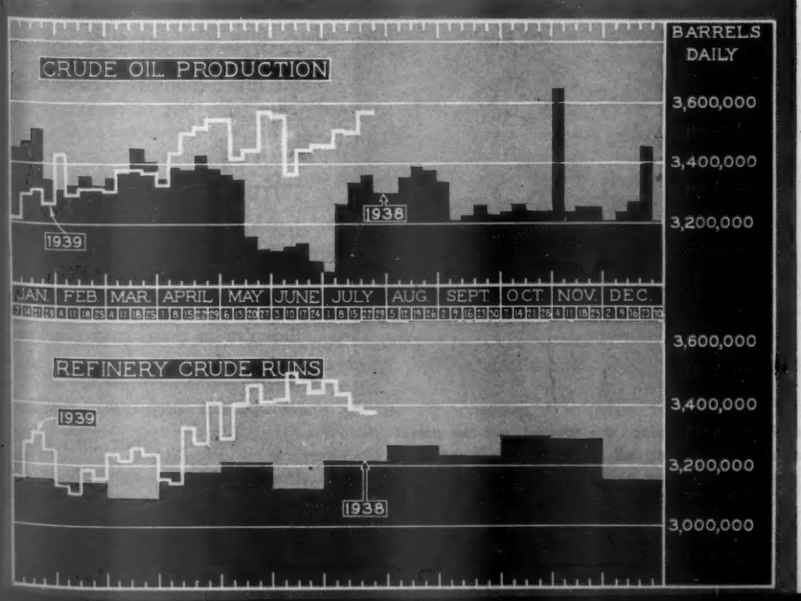
The second conclusion to be derived from an analysis of present conditions is that refiners and producers should not expect to absorb fully this increase in demand in their operations over the remainder of the year. Future operations should take into consideration needed inventory adjustments, particularly in the case of gasoline. Economists have recommended that gasoline stocks be reduced to around 65,000,000 bbl. this fall before the seasonal additions to stocks are allowed to start. It has been indicated that in addition to the needed adjustments in gasoline stocks, the future Bureau of Mines monthly production recommendations will provide for withdrawals from crude oil inventories. These adjustments in refinery and crude storage can be made and the outlets for domestic crudes will still exceed any previous 6-month period.

The fact that additional reserves derived from new pools, extensions and new sands have been almost double production so far this year shows conclusively there must be no let-down in state proration efforts. With no aid to be expected in the immediate future from states which pay little attention to conservation principles or the economic requirements of the industry the proration regulations may have to be tightened in the other states.

Finally, the data on price trends clearly indicate that the immediate objective of the industry should be a general recovery in prices for petroleum products extending from the refineries to consumers. Over a period of 2 years there has been a gradual downward trend in all products in practically all markets. The result has been a decline in revenue so that the industry as a whole is not obtaining the profits justified by its capital investment. The increases in prices required to correct this situation are not large. Analyses based on price conditions over a period of years have shown that an increase of less than 1 cent per gallon on refined products would return the industry to its 1937 earning position.

DAILY AVERAGE PRODUCTION FOR WEEK

	July 22, 1939	Bur. Mines July est. of demand	July state allowables	July 15, 1939
Oklahoma City	112,975	.....	.....	102,025
Seminole fields	46,825	.....	.....	46,825
Remainder of state	306,625	.....	.....	306,850
Total Oklahoma	466,425	456,100	428,000	455,400
East Texas	372,996	.....	.....	373,097
West Texas	241,183	.....	.....	236,398
North Central Texas	118,624	.....	.....	118,650
Texas Panhandle	67,537	.....	.....	58,348
East Central Texas	94,948	.....	.....	93,698
Gulf Coast Texas	350,845	.....	.....	348,648
Southwest Texas	97,192	.....	.....	96,896
Total Texas	1,343,325	1,426,500	1,355,598	1,325,735
North Louisiana	70,215	.....	.....	71,740
Gulf Coast Louisiana	205,640	.....	.....	204,100
Total Louisiana	275,855	264,500	263,023	275,840
California	613,250	595,200	595,000	626,500
Kansas	178,075	160,300	165,890	166,750
Arkansas	62,525	53,900	57,641	61,390
Eastern fields	97,900	105,900	.....	97,300
Illinois	281,650	187,400	.....	265,693
Michigan	68,247	53,200	.....	67,549
New Mexico	115,940	116,100	113,000	115,950
Rocky Mountain area	81,980	94,100	.....	76,080
Total United States	3,585,172	3,513,200	.....	3,534,187



SPARKS . . . FROM THE NEWS

OPPOSITE DIRECTIONS: The refining division is learning its annual lesson that excessive gasoline stocks and profitable prices never travel together, but in opposite directions.

CUT SHORT: The projected land plane and ocean clipper flight from Houston to Arabia by three Texas oil-well fire fighters was terminated in New York last week by the terse cable, "Fire is out."

ROMANCE: The current radio program by a major oil company is doing a lot to focus public attention on the oil industry. The program is worthy of kudos, and we hereby accord it a hatful.

BOOM TOWN: Fastest growing town in West Texas is Denver City in the huge Wasson-Denver field of Yoakum County. A few months ago it had less than a dozen buildings; it now covers several blocks, with supply companies moving in daily.

DRILLING SPURT: Granting drilling permits by the Texas Railroad Commission jumped from 228 to 276 last week. Included were 32 permits in the East Texas field, making a change in the commission's policy of a few months back.

AGAIN: Washington apparently believes that conditions in the oil business are ripe for another attempt to extend federal control.

SWINGING DOORS: Changes in Louisiana's oil administration are coming so fast that both back doors and front doors are swinging constantly.

ASTRONOMICAL: New-Deal-like are many of the figures on production and consumption of petroleum products reported in this statistical issue.

POINTS THE WAY: In a few hundred words, the economics committee at Santa Fe pointed the way out of the woods. The trail will not remain open indefinitely.

BAD FOR PROPHETS: With a daily production of 281,000 bbl. last week, the projected 300,000-bbl. Illinois peak is too low. That state's operations from the start have been bad for prophets.

WATER AND OIL: The first half of this year the oil industry produced 4.4 bbl. of crude for every resident of the United States. That is more than the volume of water each drank over same period.

DISCRIMINATION: Disparity in gasoline prices charged taxi companies and the general public is charged by Federal Trade Commission against a Washington oil company in the first Robinson-Patman Act case in the industry.

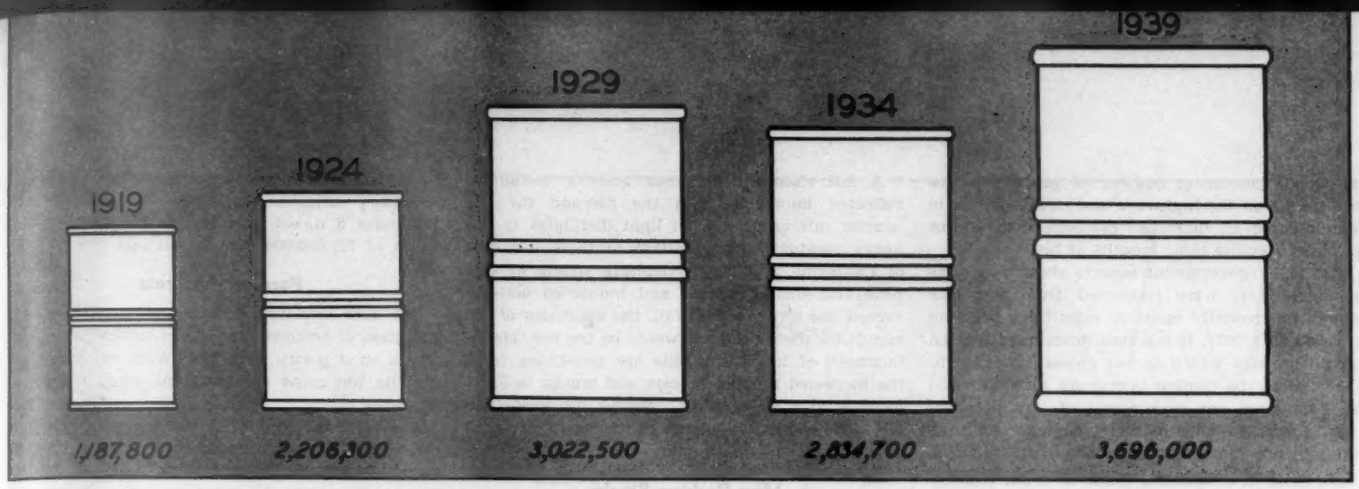
USERS AND SUPPLIERS: Millions of users of internal-combustion engines, oil burners and lamps assure a record petroleum demand the second half of the year. It remains for a few thousand producers and refiners not to oversupply this favorable market.

MORE RESERVES: Without the aid of a 200,000,000-bbl. field, additions to petroleum reserves exceeded production the first 6 months by about 100 per cent.

FUTURE FIELD: Many Oklahomans believe the state's next big oil field will be found in the Anadarko basin, where the pay is deep and markets are scarce; so extensive development may await decline of activity in other and shallower basins.

WHY 1939 GASOLINE SALES ARE SOARING . . . . .

Scenes such as this, which are commonplace this summer, are one potent reason why gasoline sales are breaking all previous records as 1939 wears into its second half. The highway pictured leads into New York



Trend in the daily demand for all oils in the United States. 1939 data cover first 5 months

1939 DEMAND FOR CRUDE OIL AND PETROLEUM PRODUCTS

	First 6 months	Second 6 mo. (estimated)	Year
Gasoline	281,000,000	314,000,000	595,000,000
Kerosene	33,586,000	35,214,000	68,800,000
Gas oil and distillate	81,750,000	82,250,000	164,000,000
Fuel oil	165,123,000	173,377,000	338,500,000
Lubricating oils	16,041,000	16,959,000	33,000,000
Natural gasoline	25,000,000	26,000,000	51,000,000
Total all oils*	675,000,000	727,000,000	1,402,000,000
Daily average	3,729,000	3,929,000	3,841,000
Demand for domestic crude oil	620,000,000	670,000,000	1,290,000,000
Daily average	3,425,000	3,621,000	3,534,000

***Includes in addition to the products named, crude oil exports, road oil, asphalt, coke, still gases, miscellaneous products, and losses from operation. June figures partially estimated. All data in barrels of 42 gal.**

•

Sustained recovery of automobile industry this year explains 6 per cent gain in domestic gasoline demand the first 6 months and assures more consumers for last half-year.

Steady expansion of oil burner and diesel engine sales points to another increase in distillates and gas oil requirements.

•

By C. O. WILLSON

Record Demand Is Assured for Next Six Months

DEMAND for crude oil and petroleum products in the United States the last half of this year will exceed all previous records. Added to the first half-year, the 6-month totals assure a new yearly high in petroleum requirements.

Following the leveling off in demand for most petroleum products last year and substantial losses in the case of some of the heavier products, statisticians at the start of this year were inclined to be conservative in regard to probable 1939 requirements. Most estimates did not exceed 3 per cent in the case of gasoline, with no large gains expected in other products.

It is now certain that these early estimates, including those made by this publication, were too low and the actual gains in most of the principal refinery products for the year will range from 4.5 to more than 10 per cent above 1938. In the case of gasoline the industry appears to be headed for total domestic and exports shipments which will be close to 600,000,000 bbl., a demand which a group of statisticians a few years ago agreed would not be reached until the late forties.

A new high in consumption for products classified as distillates and gas oils is also assured, the percentage gains in these heavy overhead oils of refineries being larger than in the case of gasoline. The residual fuel oil products have about regained all the ground lost last year and with the maintenance of present trends in industrial and marine activity — the two principal outlets — the shipments for the year will be approximately the same as in 1937.

The latest Bureau of Mines reports covering total shipments (domestic demand plus exports) for the first 5 months of this year show the following percentage gains over the same period in 1938: Gasoline, 5.2 per cent; kerosene, 9.5 per cent; gas oil and distillates, 15.9 per cent; residual fuel oils, 10.8 per cent; lubricating oils, 7.9 per cent, and petroleum wax 4.1 per cent. Among the minor products, road oil and coke for the 5 months were slightly below 1938 with a 12 per cent gain in asphalt shipments.

It is not anticipated that these 5-month percentage gains will be maintained throughout the remainder of the year and the estimates given for the last half-year summarized in the foregoing table range from 3.5 to 8.5 per cent over the last half of 1938.

The decrease in percentage gains for the last 6 months is largely a reflection of the fact that the demand for gasoline and most of the other finished products reflected the improved business conditions which developed the last quarter of 1938 and the figures for that period were on a better comparative basis with 1937 than they were the first 9 months. This situation will tend to reduce the percentage gains this year for the last quarter.

Key Figures

The key figures at this time all point to a highly satisfactory consumption for the remainder of the year. Domestic car and truck sales for the first half of this year totaled 1,686,123 units, a gain of 43 per cent over the first half of 1938. June sales of 301,371 units were 59 per cent greater than June 1938.

These 6-month sales and the gains recorded last November and December account for the increase of about 6 per cent in domestic shipments of gasoline from January 1 to June 30 of this year. Those in touch with conditions do not expect anything more than a seasonal downward trend in car sales over the remainder of the year, a fact which

means an increasing number of motor vehicles and trucks on the highways and streets which in turn assures an increased domestic demand for gasoline over the same months of last year.

The latest government reports show that sales of oil burners have recovered from the 1938 slump and recently monthly sales have been on a parity with 1937. If the main installment period for oil burners which is just ahead comes up to expectation, the coming burner oil season should be 8 or more per cent ahead of any previous year. Increased sales of diesel engines and tractors will provide outlets for more distillate fuels.

All these developments point to a particularly strong domestic demand for most products through the remainder of this year and early 1940. The export situation is not as favorable as the domestic division, although total sales to foreign buyers the first 6 months of this year were slightly ahead of the 6-month period in 1938. Last year the large increase in export shipments was an important factor in offsetting declines in domestic outlets.

With these several situations in mind it is estimated that the total demand for the principal refinery products the last 6 months of this year will show the following gains over the last half of 1938: Gasoline, 3.5 per cent; kerosene, 6.5 per cent; gas oil and distillate, 8.5 per cent; residual fuel oil, 8.2 per cent, and lubricating oil, 7.4 per cent. The estimated totals are given in table at start of this article with data for the first 6 months and estimated figures for the entire year.

Increase in Domestic Shipments

In the case of gasoline it is believed that the increase in domestic shipments will be a little less than 4 per cent over last 6 months of 1938 with a decrease in exports so that the gain in total shipments will be 3.5 per cent. The probable exports of gasoline and other products are more difficult to project than are the domestic requirements. Changes in foreign supplies brought about by a war or some other major development could bring a greater demand for gasoline from foreign countries than now appears probable.

In the domestic end, a substantial upturn in business this fall with heavy sales of 1940 cars the last quarter of this year would mean that the estimated domestic consumption would prove to be too low. These possible additions to both export and domestic outlets could boost the gasoline demand for the last half-year to 320,000,000 or 325,000,000 bbl.

The estimated shipments of the other refinery products assumes a continuance of business conditions at the same comparative levels as those which prevailed the first 6 months.

A fall slump in business activity would be reflected immediately in the demand for the heavier oils ranging from light distillates to the heavy residuals. The position of these oils east of California appears particularly strong at this time and should marine and industrial activity exceed the levels of last fall, the estimates of demands for these products would be too low. Manufacturers of lubricating oils are benefiting from the increased number of cars and trucks in service and also the greater demand for industrial oils. The export shipments of lubricants are also running ahead of last year.

May Reduce Stocks

These estimates of demand for petroleum products indicate the demand for domestic crude oil will be 670,000,000 bbl. or 4.5 per cent more than the demand for domestic crudes the first half of 1938. The last 6 months of 1938, 18,000,000 bbl. of crude oil were taken from storage in this country. Some economists favor a similar reduction for the remainder of this year. They have also recommended curtailment in refinery operations so that present refinery stocks of gasoline will be at least 15,000,000 bbl. under their present levels by October 15. If either or both of these recommendations are carried out it will reduce the indicated requirements for domestic crude from 75,000 to 150,000 bbl. daily depending on the volume of inventory adjustments. This, of course, would also have a direct bearing on the projected demand of 727,000,000 bbl. for all oils.

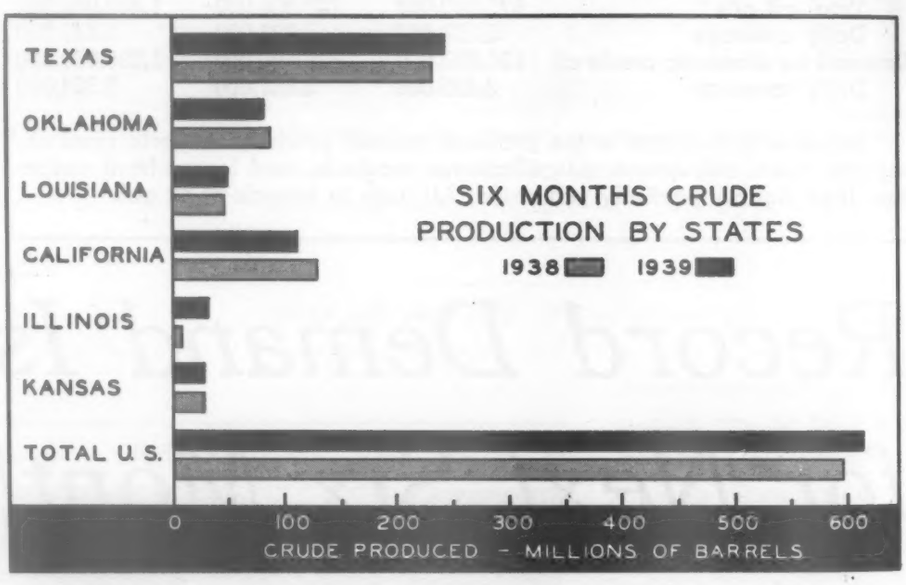
Foreign Markets

The data available indicate that the actual consumption of petroleum products outside this country is on a parity with 1938 with conditions favorable for gains the last half year in several countries.

The U.S.S.R., second largest oil-producing and consuming country, has reported increased domestic requirements this year. Imports to the United Kingdom, the third largest consumer of petroleum products, are about the same as last year. Imports, which are an indication of domestic needs, have increased in Germany this year, and the same situation applies to several other European and South American countries. The demand for gasoline in Canada is running about the same as last year, but total imports to Japan, an important market, have declined despite a gain in gasoline imports.

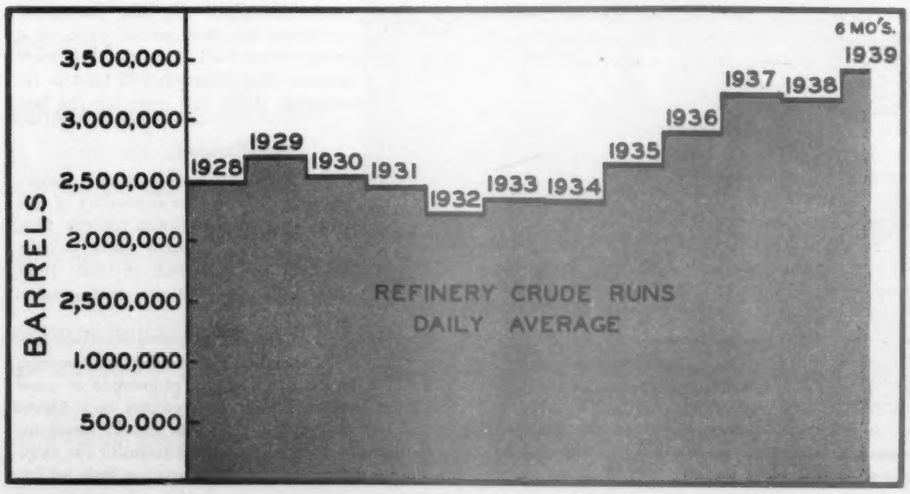
The situation in regard to crude oil output for the first 6 months is summarized in another article in this issue. No attempt is made here to project probable trends in supplies over the next 6 months. The assured heavy consumption of products gives the base from which supply and demand could be brought in better balance than they have been the past year and a half, to the end that all operations would be more profitable.

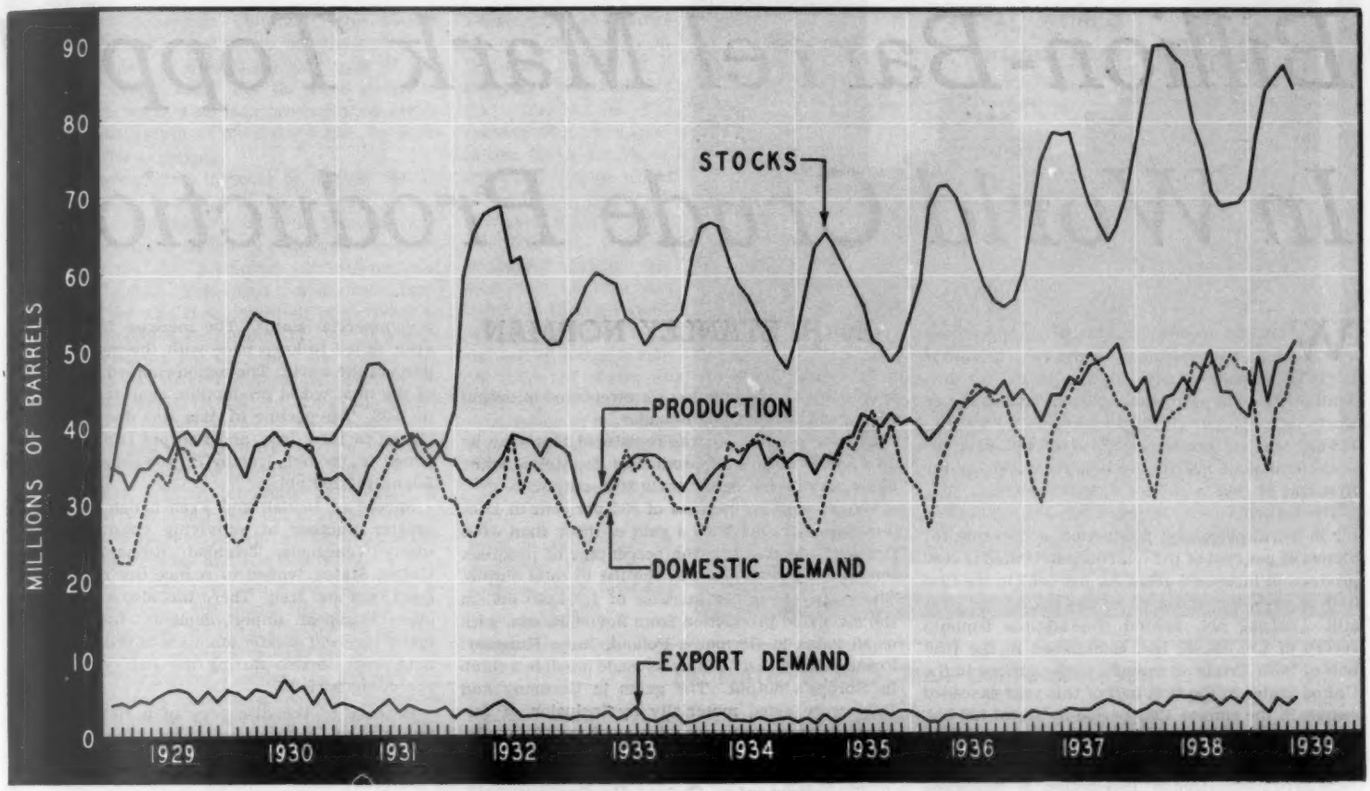
In this country it is expected that Illinois, the principal disturbing factor in crude markets so far this year, will reach a peak of around 325,000 bbl. daily before the end of the year. The rapid gain in that state's production has necessitated many changes in the movement of crude oil and products and more adjustments will be necessary before the end of the year. Due to the wide-open method of development in most fields of that state it is assumed that the decline in production, once the peak is reached, will be rapid. If no new discoveries are made this will mean that Illinois will be less a factor in 1940 operations than it has been this year. New reserves added the first 6 months of the year in the United States exceeded production by about 100 per cent.



Below—Refinery crude runs in the United States during the first half of 1939 showed a substantial rise. They now stand at a peak

Illinois, producing four times as much oil in the first half of 1939 as was produced in that state during the same period a year ago, accounts for much of the gain in the U. S. total





Trend in gasoline stocks, production, domestic demand and exports for the past 10 years as revealed by the Bureau of Mines data. Note the constant increase in demand throughout the period and the repeated establishing of new peaks in stocks almost every year

Outside this country, the principal new sources of crude supplies are in eastern Venezuela, where a new line has just been completed to an area which does not have shipping facilities at this time, and in western Colombia, where a new line is being completed connecting to the Barco concession's production. Owing to the status of field development it is not believed that either of these fields will add materially to the available crude oil over the remainder of this year.

Inventories

The latest available reports indicate that the inventory of all oils on June 30 was 40,000,000 bbl. less than on the same date in 1938. This reduction was equally divided between crude oil and products. The latter part of last year there was a substantial reduction in crude stocks. This trend ended at the start of this year and crude stocks on June 30 were practically the same as on January 1.

Gasoline stocks the early part of this year were several million barrels lower than in 1938, but this situation changed and the 6 months ended with practically the same stocks as on June 30, 1938. The reduction in refinery stocks over a year ago took place the first part of this year and was practically all in the heavy oils. Stocks of all oils are now approximately 558,000,000 bbl., which is equal to the total demand for these oils the first 5 months of this year.

Refinery Operations

Crude runs to stills the first 6 months were approximately 4 per cent ahead of 1938, establishing a new record for that period. Despite the increase in demand these runs were too large and the hoped-for improvement in the inventory situation did not materialize.

Outstanding in refinery operations was the fact that gasoline yields from crude oil increased 1.1 per cent. This was a reflection on the expansion in cracking facilities brought about by the comparative costs of refinery charging stocks and necessity of increasing octane ratings of gasoline. Prices on gas oil and fuel oil declined sharply last year with little change in crude oil prices. These refinery products increased in attractiveness as charging stock for cracking units. The net result has been that many refiners have been able to expand their gasoline output with little or no increase in crude runs to stills. Large cracking installations now under construction will accentuate this development later in the year.

Prices

While there has been some improvement in prices at scattered points over the past few weeks, the average refinery, wholesale and retail prices for petroleum products the first half year as shown in tables and charts of this issue, are lower than last year. In several cases the half-year averages are the lowest in several years.

This trend toward lower prices for practically all products in domestic and export markets got under way the latter part of 1937, continuing until recent weeks. It explained the large decrease in earnings — particularly of the large integrated companies — in 1938. In the first quarter of this year the earning of these companies were 25 to 75 per cent lower than the same quarter in 1938. Owing to the large increase in demand and slightly better prices, second quarter earnings have been better than the first quarter, but still under 1938 in most cases.

There have been no general declines in crude oil markets since the reduction of 15 to 20 cents per barrel made effective over a large part of the oil country east of California in October last year. Early this year there were advances in Pennsylvania Grade crude oil and prices on lubricants made from those crudes are higher than they were the last half of 1938.

Posted prices have been reduced in Illinois fields this year and there have been scattered reductions and advances in other areas applying to comparatively small quantities of crude.

Representative Situation

Developments in crude oil and refinery markets in recent years are indicated in an analysis of representative refinery operations in the Mid-Continent field. While the exact figures will vary with the several producing and refining areas depending on several factors, the comparative situations are believed to be representative of conditions east of California.

The following table includes the posted price for 36-gravity crude oil and the refinery revenue per barrel of 42 gal. is based on average tankcar prices f.o.b. refineries in Oklahoma:

	1st 6 mos. 1939	1938	1937	1936	1935
Refinery revenue	$1.486	$1.602	$1.867	$1.827	$1.572
Crude price	1.02	1.21	1.10	1.00	1.00
Operating margin*	.466	.412	.657	.727	.572

*Includes pipe line transportation from fields to refineries and manufacturing and refinery sales costs.

The refinery revenues are based on a combination skimming and cracking operation with the following yields from a barrel of crude oil: 25 gal. regular (housebrand) gasoline; 2.5 gal. of 41-43 kerosene; 5 gal. of gas oil and distillate; 8 gal. of residual low-gravity fuel oil and 1½ gal. still gases and loss.

This table shows that, based on average prices, the refinery revenue per barrel of crude oil refined the first half of this year was the lowest since 1934 when the revenue was $1.422. The operating margin this year was better than the average of last year owing to the reduction of 20 cents per barrel for crude oil.

This comparative situation has been pointed out by leaders of the industry in recent months in stressing the need for higher refinery and retail prices for all products.

Billion-Barrel Mark Topped In World Crude Production

By H. STANLEY NORMAN

WORLD crude-oil production topped the billion-barrel mark in the first 6 months in 1939, setting a new all-time high for any similar period in petroleum history. The estimated world aggregate crude-oil production of 1,010,076,115 bbl. was an increase of 32,762,629 bbl. over the revised total of 977,313,486 bbl. recovered in the first half of 1938, a gain of 3.34 per cent.

The United States continued the dominating factor in world petroleum production, accounting for almost 61 per cent of the total output. United States' production increased about 3.2 per cent in the first half of 1939, but the total of 616,453,215 bbl. was still 2,707,652 bbl. behind the all-time 6-month record of 619,160,867 bbl. established in the first half of 1937. Crude oil brought to the surface in the United States in the first half of this year exceeded output in the similar 1938 period by 18,401,729 bbl.

Outside of the United States, Venezuela's continued rapid rise was the outstanding feature in 1939 production trends. Production of 99,000,000 bbl. from Venezuela during the first half of the year was an increase of 8,516,000 bbl. over the 1938 period, a gain of 9.4 per cent. Venezuela came within 7,750,000 bbl. of catching up with Soviet Russia, whereas in 1938 Venezuela was 14,292,000 bbl. behind Russia. The reduction in the differential between Soviet and Venezuelan production is expected to continue with completion of the new 100-mile Oficina-Guanta pipe line, which will provide an outlet for extensively proven reserves in a heretofore undrained section. It is anticipated by many that Venezuela will move into second position in the world-production list by the end of June 1940.

Greater production from Venezuela was the important factor in boosting South American output to 154,095,000 bbl. in the first half of 1938. The South American total includes Trinidad, which contributed a gain of 1,256,000 bbl. Venezuela, Colombia, Trinidad, and Argentina had gains in production this year, while losses were reported in output from Peru, Mexico, and Ecuador.

Greater production was registered this year by 16 of the world's oil-producing countries, while eight nations fell below their 1938 output.

Egypt, with an increase of 333 per cent in 1939, and Saudi Arabia, with a gain of more than 6,000 per cent, stood out in the percentage of progress, but both are well down in the list in total output. The relatively minor increase of 1,974,000 bbl. in the estimated production from Soviet Russia, with small gains in Germany, Poland, Italy, Hungary, France, and "other" countries made possible a climb in Europe's output. The gains in Germany and Italy were aided materially by inclusion of formerly independent countries, such as Czechoslovakia and Albania, in the 1939 figures.

Rumanian Output Declines

Another sharp drop in Rumanian output of 1,687,000 bbl. for the half year to a total of 23,100,000 bbl. almost nullified the gain in U.S.S.R. After balancing Rumania's decline against Russia's increase, Europe closed the first 6 months with a net gain of 1,133,300 bbl. Total output of European countries is calculated at 135,475,000 bbl., or about 13.4 per cent of the world's aggregate new supply.

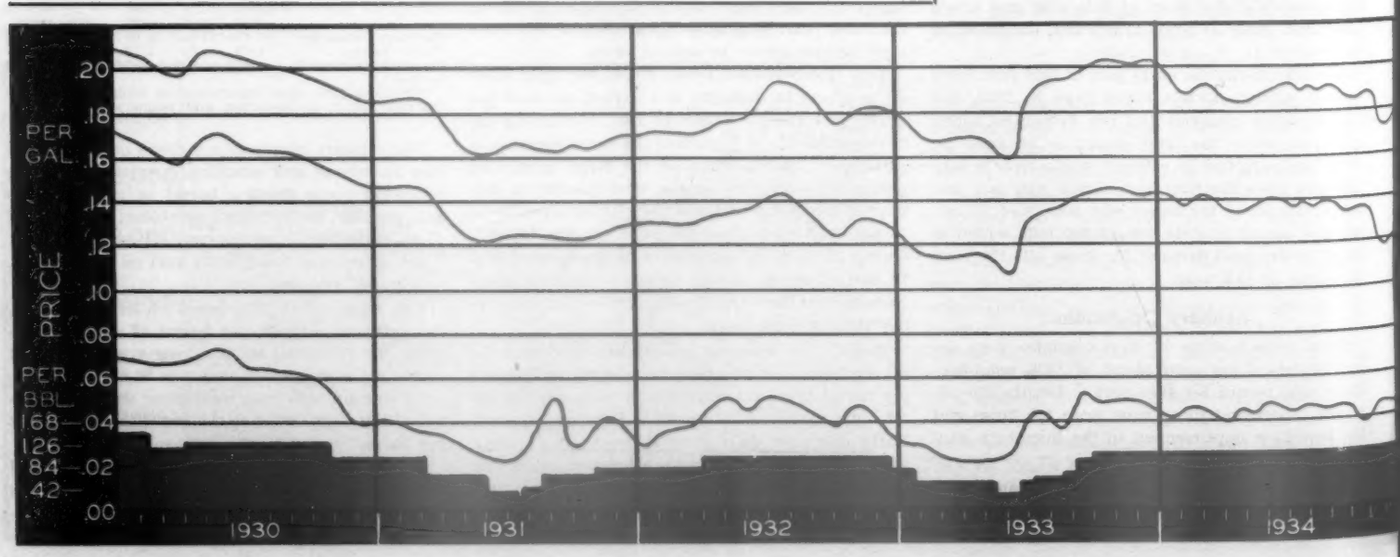
The climb of 8,516,000 bbl. in production from Venezuela and other smaller gains boosted South American output ahead of Europe for the first time in history. Inclusion of Trinidad in South America gives that regional division 154,095,000 bbl., or 15.2 per cent of the world total. Excluding Trinidad, South America still holds a substantial margin over Europe. Production from Asia increased 1.7 per cent to a total of 98,587,900 bbl. entirely because of greater activity in the Dutch East Indies and to the development of Saudi Arabian reserves to a commercial status. The increase in Asia, however, failed to keep pace with the gains in other parts of the world. The region claimed 9.77 per cent of the total world production, against 9.9 per cent in 1938. The decline in Asia was due to curtailed output in Iran, Iraq, and Bahrein Island. Iran declined 465,000 bbl., Iraq by 727,000 bbl., and Bahrein Island 417,200 bbl.

Spread of British and French demands over a greater number of supplying countries, particularly Venezuela, Trinidad, Rumania, and the United States, tended to reduce the requirements from Iran and Iraq. There was also a diversion of other European import demand. Italy and Germany received greater amounts of crude and products from Mexico during the half year than in preceding periods.

Because of the discovery of a field in Egypt, Ras Gharib, production from Africa increased 1,769,000 bbl., totaling 2,300,000 bbl. for the first 6 months, an increase of approximately 333 per cent. It was not until about the middle of 1938 that the new Egyptian field operated by Anglo-Egyptian Oilfields, Ltd., was placed on a commercial basis. The increase in Egyptian output will be reduced during the last half, although steady operation of two rigs in the new field is adding wells each 45 to 60 days.

CRUDE AND GASOLINE PRI

Relationship between posted crude prices and gasoline prices over a 9½-year period. The crude price, plotted in solid color, is for 36-36.9 gravity Mid-Continent oil. The refinery gasoline price shown above reflects the market for the house brand or regular grade



The North American Continent, the United States and Canada, closed the six months with combined production of 618,603,215 bbl., over 61 per cent of the world's total. For the same period in 1938, the two North American producing countries had combined output of 599,880,886 bbl., or 61.38 per cent of the aggregate.

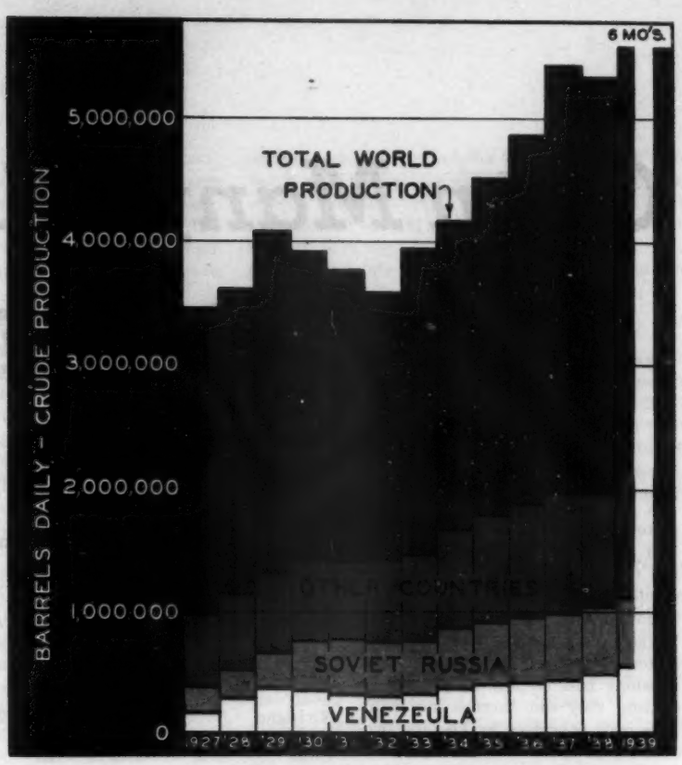
The relatively light increase of 311,000 bbl. in production from Colombia during the first half of 1939 came exclusively from the Infantas and La Cira fields in the De Mares concession operated by Tropical Oil Co., subsidiary of International Petroleum Co., Ltd. This small increase fails, however, to reflect the true condition of activity in Colombia. Colombia Petroleum Co., owned jointly by Socony-Vacuum Oil Co., Inc., and Texas Co., continued its extensive development program on the Barco concession in eastern Colombia, where more than 75 producing wells have been completed. South American Gulf Oil Co. pipe line from the Barco concession to Covenas, a port on the Caribbean Sea, will be completed and placed in operation early this fall and will provide the first outlet to world markets for the high-gravity crude proven in the Petrolea and Rio Oro fields.

Although Trinidad advanced above Argentina in the world-production list in the first half of 1939, Argentina increased its output under the aggressive development program carried on largely by Yacimentos Petroliferos Fiscales, the government company. Private companies remain disbarred from acquisition of prospecting territories and were inactive except for routine maintenance and production work in territories held prior to adoption of the nationalist policy.

Features in European production were the continued decline of Rumanian production and elevation of Hungary from the classification among "other" countries to an individual listing. Development of the Hungarian-American Oil Co.'s field near Lispe continued, and the structure has been proven fully 10 miles in length.

Construction of 40 miles of 10-in. pipe line from Dammam dome to a shipping terminal at Ras Tanura, on the Persian Gulf coast, permitted Saudi Arabia to enter the list of world oil-producing countries. However, a bulk of the 1,180,000 bbl. of crude produced during the first half of 1939 was handled through temporary facilities and moved by barge across 18 miles of water to Bahrein for refining. Completion of the deep-water loading terminal at Ras Tanura will en-

(Cont. on Page 223)



Trend in world crude oil production. The U. S. still produces nearly two-thirds of total

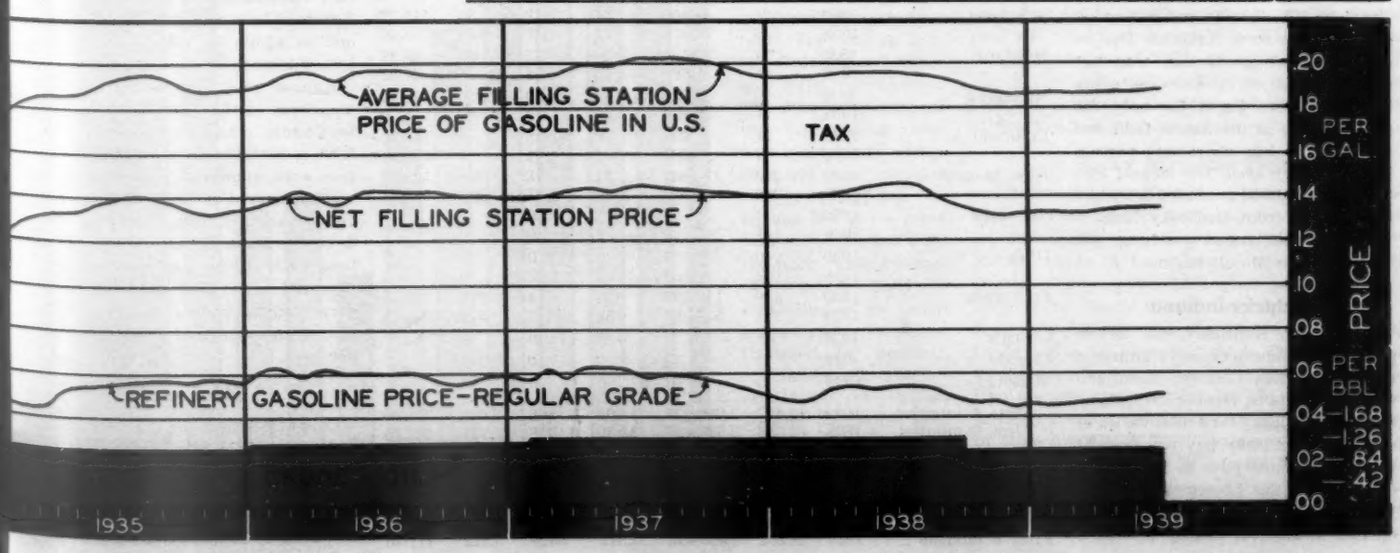
ESTIMATED WORLD CRUDE OIL PRODUCTION

	Six months		Change	Daily average	Daily average
	1939	1938	in 1939	1939	1938
United States	616,453,215	597,051,486	+18,401,729	3,400,293	3,298,627
U.S.S.R. (inc. Sakhalin)	106,750,000	104,776,000	+1,974,000	589,778	578,873
Venezuela	99,000,000	90,484,000	+8,516,000	546,961	499,912
Iran (Persia)	39,725,000	40,190,000	—465,000	219,475	222,044
Dutch East Indies*	32,100,000	30,043,000	+2,057,000	177,348	165,983
Rumania	23,100,000	24,787,000	—1,687,000	127,624	136,945
Mexico	18,050,000	19,258,000	—1,208,000	99,724	106,398
Iraq	15,575,000	16,302,000	—727,000	86,050	90,068
Columbia	10,585,000	10,274,000	+311,000	58,481	56,762
Trinidad	9,500,000	8,244,000	+1,256,000	52,486	45,548
Argentina	9,010,000	8,418,000	+592,000	49,779	46,508
Peru	6,860,000	7,911,000	—1,051,000	37,901	43,707
British India†	4,975,000	4,843,800	+131,200	27,486	26,761
Bahrein	3,807,900	4,225,100	—417,200	21,038	23,343
Canada	3,150,000	2,829,400	+320,600	17,403	15,632
Germany‡	2,510,000	2,154,000	+356,000	13,867	11,901
Egypt	2,300,000	531,000	+1,769,000	12,707	2,934
Poland	1,900,000	1,838,000	+62,000	10,497	10,155
Japan (inc. Taiwan)	1,225,000	1,234,000	—9,000	6,768	6,818
Saudi Arabia	1,180,000	19,000	+1,161,000	6,519	105
Ecuador	1,090,000	1,098,000	—8,000	6,022	6,066
Italy§	525,000	416,000	+109,000	2,901	2,298
Hungary	405,000	98,700	+306,300	2,238	545
France	250,000	242,000	+8,000	1,381	1,337
Others	50,000	46,000	+4,000	276	254
Total	1,010,076,115	977,313,486	+32,436,398	5,575,004	5,399,522

*Includes Sarawak and Brunei. †Includes Burma. ‡Includes Austria and Czechoslovakia. §Includes Albania.

CES, 1930-1939 (Chart Below)

(now 70-72 octane). The net retail gasoline filling station price is based upon the same grade and is the average of prices posted among dealers in 50 cities located in 47 states. The latter is free of all taxes while the top line includes these taxes and traces the station price.



Open Many Oil Fields in U. S. Under Restricted Drilling

By JAMES McINTYRE

A decline of 1,069 in wells completed in the United States the first half of 1939, compared with the record of the same period last year indicates the tight rein which conservation authorities in Kansas and Texas held over operators in those states, for, while the respective commissions had no authority to curb drilling they did exercise an influence over operators by keeping production down and discouraging the sinking of unnecessary wells. A total of 8,609 oil wells was recorded as against 9,721 in the same period last year. Outside of Illinois, and to a lesser degree, of Michigan, there were few increases in the wells-completed column. Dry holes increased 137 or from 2,855 to 2,992 and gas wells decreased from 958 to 866. The percentage of oil wells drilled in the first half of this year was 69 as against 72 last year. Compared with the record of the first half of 1937 this half year showed a very severe falling off in field work.

Illinois

No important new fields were opened in Illinois in the first half of this year, a fact that was given full appreciation by operators in other states affected by the large and steadily-growing production of the Illinois fields opened in the last half of last year. The development of the Salem and Louden pools, the most important of last year's discoveries, called for the drilling in the first half of this year of 600 wells to completion in Salem and 512 in Louden. In the Salem field, 568 oil wells, and in Louden 475 oil wells were finished. The recorded initial production was not representative of 24 hours, as many big wells were gaged for only the first 3 hours in the Salem field and for more or less short-time periods in the Louden area. The largest well in the Salem field produced 6,000 bbl. in 24 hours from McClosky lime. It was also the largest producer yet drilled in the Illinois basin.

Kentucky-Indiana

In western Kentucky, the Belton pool in Muhlenberg County; Thurston pool in Daviess County; Reed and Corydon pools in Henderson County were all McClosky lime discoveries of this year. McClosky pay was opened in the old Utica pool in Henderson County and the Livermore field in McLean County. The Handyville pool opened in Daviess county produced from the Chester series. The Breslin pool in Butler County and Cane Run pool in Daviess were also discoveries of the first half of the year.

In southwestern Indiana the important Griffin pool in Gibson County was opened by a 1,000-bbl. well in McClosky lime. The only other discovery was the New Harmony pool, in Gibson County, also producing from McClosky lime.

Summary of Completed Work in All Fields of the United States in First 6 Months of 1939 and in Same Period of 1938

	First 6 mos.	Comp.	Init. prod. (bbl.)	Dry holes	Gas wells	Oil wells	Av. init. prod. (bbl.)
Eastern fields	1939	1,771	37,758	117	319	1,335	28.28
	1938	2,068	9,928	169	329	1,570	6.32
Central Ohio	1939	264	594	104	147	13	45.70
	1938	211	163	51	157	3	54.33
Michigan	1939	670	243,351	271	18	381	638.72
	1938	454	69,605	174	13	267	260.39
Lima	1939	18	15	13	1	4	3.75
	1938	16	209	3	5	8	26.12
Indiana	1939	102	5,115	52	16	34	150.44
	1938	64	294	32	16	16	18.38
Kentucky	1939	332	8,045	149	59	124	64.87
	1938	409	9,987	131	69	209	47.78
Alabama	1939	1	0	1	0	0	....
	1938	3	0	3	0	0	....
Mississippi	1939	5	0	5	0	0	....
	1938	13	0	11	2	0	....
Illinois	1939	1,611	333,260	274	9	1,328	250.95
	1938	524	122,620	106	4	414	296.19
Kansas	1939	558	175,962	133	24	401	438.81
	1938	858	422,954	232	42	584	724.24
Oklahoma	1939	900	116,165	279	62	559	207.81
	1938	871	117,654	276	64	531	221.57
N. Central Texas	1939	1,194	307,323	515	21	658	467.36
	1938	1,673	520,658	583	22	1,068	486.39
West Texas	1939	888	685,401	76	3	809	847.22
	1938	1,086	817,058	113	10	963	848.45
E. C. and E. Texas	1939	365	20,367	61	15	289	70.47
	1938	1,222	73,836	93	13	1,116	66.16
E. Texas Border	1939	29	6,480	6	3	20	324.00
	1938	80	24,530	9	3	68	360.74
Texas Panhandle	1939	181	44,966	19	38	124	362.63
	1938	325	125,994	14	55	256	492.16
Gulf Coast, Texas	1939	684	161,676	117	33	534	302.77
	1938	671	227,232	133	17	521	436.14
Southwest Texas	1939	1,262	118,658	358	35	869	136.54
	1938	1,249	132,081	351	58	840	157.24
North Louisiana	1939	265	40,295	86	35	144	279.83
	1938	309	120,360	56	44	209	575.88
Gulf Coast, La.	1939	319	62,876	107	7	205	306.71
	1938	239	60,573	88	4	147	412.06
Arkansas	1939	121	44,300	34	1	86	515.12
	1938	126	77,620	22	1	103	753.60
Montana	1939	77	5,144	16	7	54	95.27
	1938	41	1,688	12	4	25	67.52
Wyoming	1939	46	28,703	16	0	30	956.77
	1938	77	23,759	19	12	46	516.50
Colorado	1939	11	390	8	1	2	195.00
	1938	7	507	4	1	2	253.50
New Mexico	1939	273	120,807	37	8	228	529.82
	1938	266	97,030	30	7	229	423.71
Nebraska	1939	1	0	1	0	0	....
	1938	1	0	1	0	0	....
Utah	1939	0	0	0	0	0	....
	1938	2	0	1	1	0	....
California	1939	519	117,428	137	4	378	310.34
	1938	671	533,089	138	5	528	1,009.64
Georgia	1939	1	0	1	0	0	....
Florida	1939	2	0	2	0	0	....
Missouri	1939	6	0	6	0	0	....
First 6 months	1939	12,467	2,685,079	2,992	866	8,609	311.89
First 6 months	1938	13,536	3,589,429	2,855	958	9,721	369.25
Difference	....	1,069	904,350	137	92	1,112	57.36
First 6 months	1937	15,122	3,861,454	2,890	1,100	11,132	346.88
First 6 months	1936	11,706	3,129,904	2,535	813	8,358	378.76
First 6 months	1935	10,329	2,394,274	2,328	644	7,357	325.44
First 6 months	1934	8,292	2,430,413	1,942	528	5,822	417.45

Kansas

Kansas made the excellent record of one discovery well to three wildcats in the first 6 months of this year. Thirty-four wildcat oil and gas wells were completed, and 61 wildcats were dry and abandoned at an average depth of 3,145 ft. The deepest wildcat failure was in Barbour County, at a total depth of 4,850 ft. Three new counties, Phillips, Norton and Sherman, were added to the counties producing gas or oil, or both. They are in the western part of the state. Notwithstanding field work showed a decline, compared with the same period last year, the potential production of the state soared to an all-time high because of the development of unusually large production in this year's drilling wells in the Hittle pool in Cowley County and from Misener sand wells in the Zenith pool in Stafford County. Kansas came in for a share of the wildcatting in the Forest City basin which extends through portions of Missouri, Kansas, Nebraska and Iowa, and a shallow pool in Johnson County was opened. Production was extended within 20 miles of Nebraska by a well in Norton County, and to within 28 miles of Nebraska by a wildcat in Phillips County.

Kansas' most interesting development was in the Hittle pool in Cowley County, where wells ranging from 5,000 to 8,000 bbl. in potential production were numerous, and where one well was rated at 17,508 bbl. per day and another at over 22,000 bbl. per day. On June 30 the 30 Arbuckle lime wells in the pool were given a potential of 112,803 bbl., but were permitted to produce less than 2,100 bbl. or an average of 70 bbl. per day per well.

Oklahoma

Caught between the big production of Texas and the growing production of Illinois, both nearer the big refining centers than Oklahoma, that state surprised the industry by completing 900 wells, or 29 more than in the first

6 months of last year. A total of 559 oil wells was recorded in the state, with initial production of 116,115 bbl. or an average of 207.81 bbl. per well. The most active areas in the first half of the year were Creek, Lincoln, Payne and Pottawatomie counties. The St. Louis field in Pottawatomie County and the Ramsey field in Payne County were the outstanding developments of the half year. Production in the St. Louis area was found in the Viola, Hunton, dolomite and Wilcox formations, and the field was extended in every direction. The Ramsey pool was developed conservatively but the size of the wells was sensational, ranging as high as 22,000 bbl. per day on the basis of their short time gages. Nineteen oil wells drilled in Caddo County yielded 8,061 bbl. initially. Eighteen new pools were uncovered by wildcats, but none of them was considered of major importance. Wildcatting was below the record of former years because operators were not inclined to risk large sums in drilling when there was little chance of finding an adequate market if they succeeded in bringing in production.

North Texas

The North Texas, or Wichita Falls district, enjoyed a busy and profitable half year. Pools were opened in Archer, Baylor, Cooke, Clay, and Montague counties. Archer County led with the discovery of the Kadane, Mankins deep, Hart, Griffin, and Sikes pools. The Voth pool and a deeper pay in the Walnut Bend pool were Cooke County's contributions, and the New Nocona and Bonita pools were recorded in Montague County. The discovery wells ranged from 100 bbl. a day to 1,348 bbl. a day Most of the discoveries resulted from an extensive search for Strawn sand production. Two fields opened in Clay County, Browning and Halsell, attracted the greatest interest as possibilities were seen that the two discoveries, 9 miles apart, might eventually be found to be in the one field. The K.M.A. field was developed conservatively throughout the half year with from five to seven new wells added weekly.

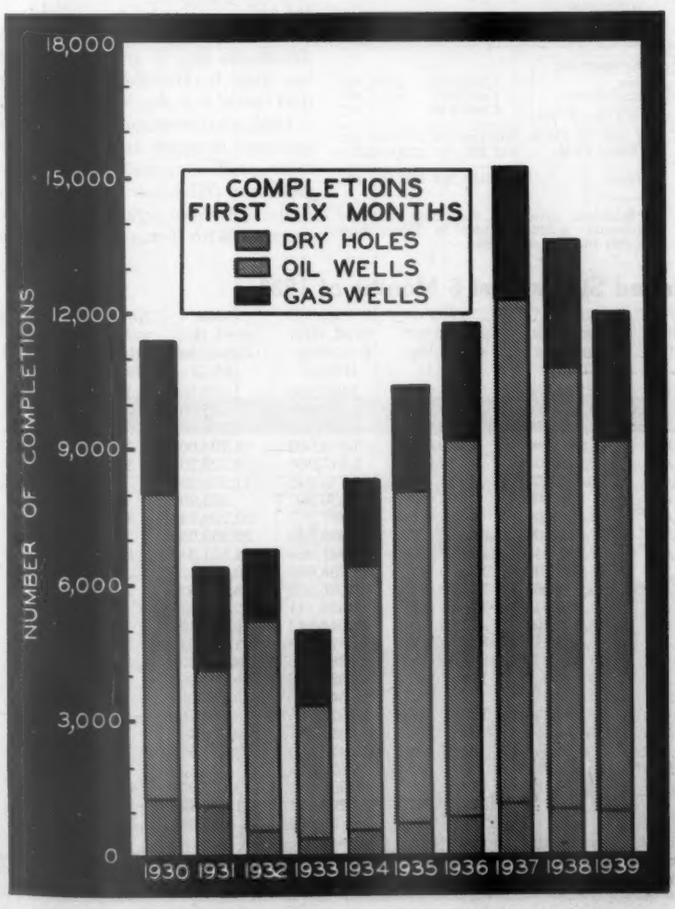
West Central Texas

The search for oil in the Palo Pinto lime of the lower Canyon series was the main feature of exploration in the old Central Texas area. The Palo Pinto trend from the Ivy pool in southwestern Shackelford County, southwestward through the Avoca and Griffin pools of Jones County was explored and exploited. The Griffin pool, close to the town of Avoca, which had three oil wells at the opening of the year, had 40 at the close of June, and the majority were classed as 3,000-bbl. wells. The field is credited with a reserve of 13,000,000 bbl. Pools were opened in Young, Shackelford, Callahan, Jack, Palo Pinto, Jones, Stephens, Coleman, Eastland and Stonewall counties, ranging from shallow Strawn sand pools at 1,220 ft. in Palo Pinto County to deep Strawn pays found at 4,365 to 4,418 ft. in Jack County. Only one of the discovery wells, Anzac Oil Co. No. 4-C Morris ranch, in Coleman County, was a large initial producer. That well started at 2,250 bbl. a day from pay at 2,174-90 ft. The new pools saw little development in the first half of the year.

West Texas

West Texas' record of new fields in the first half of 1939 was spread over five counties, Pecos, with two pools; Schleicher, with two, and Ector, Cochran and Yoakum with one each. None of the discovery wells was large in output. The outstanding result of field work was the joining of the Wasson-Denver and the Bennett pools in Yoakum County. Six thousand productive acres were added to Yoakum County. Deeper producing horizons in old fields rounded out a year of reduced activity compared with the same period last year.

Relationship of drilling operations for the first 6 months of each year since 1930, showing number of oil wells, gas wells and dry holes completed



Gulf Coast

With field operations about the same in number as in the first half of 1938, Gulf Coast operators opened four pools, one each in Harris, Galveston, Liberty and Jefferson counties. The Louisiana side of the big coastal area was much more active than last year, with 319 wells completed, as against 239 in the same period in 1938, but only six pools were opened, of which Eola in Avoyelles is the most important. Avoyelles, Cameron, St. Bernard, St. James, St. Charles and Allen parishes shared with one pool each. The opening of the Eola pool was marked by the discovery of the first Wilcox sand production in the coastal area. This is not the Wilcox of Oklahoma, but a sand of Tertiary age. The Eola pool is considered the most important discovery in coastal Louisiana in several years. The oil found at about 8,500 ft. is of high gravity. Eleven wells had been completed at the end of June, and the field defined only on the southwest.

Southwest Texas

In number of pools opened Southwest Texas led all the Lone Star State producing divisions in the first half of this year with a total of 20 oil pools and one gas field. Jim Wells County led with seven pools, and Webb, San Patricio, Refugio, Nueces, Duval, Starr, Bastrop, Live Oak and Guadalupe were each given one or more new producing areas.

North Louisiana-Arkansas

No important pools were opened in the North Louisiana-Arkansas-East Texas border district, but some of the discoveries of 1938 were developed profitably. The Magnolia field in Columbia County, Arkansas, was a notable example. A series of extensions to the field developed over 3,500 productive acres. In mid-June G. H. Vaughn No. 1 J. Jones, 1 mile from nearest production, was found to have full saturated-lime thickness. Estimates of the ultimate productivity of Magnolia range as high as 150,000,000 bbl.

The leading development in North Louisiana was the Shreveport, or Cross Lake field, in Caddo Parish, opened last December in Woodbine sand. By April 16 wells were drilling in the field but by the close of June with 32 wells completed the field settled down to a routine basis. The Bodcaw oil zone in the Cotton Valley field was extended.

On the Texas border side of the district a gas-distillate field was opened in Panola County by Turner & Smith's No. 1 J. W. Bird, 7 miles east of Carthage. The well produced 40,000,000 cu. ft. of wet gas and later was goven potential test under back pressure and was rated at 24,000,000 cu. ft. of gas and 20 to 25 bbl. of 60-gravity distillate per 1,000,000 cu. ft. of gas.

California

Three fields opened in California, together with extensions to older fields in the state, are credited with an estimated reserve of 127,500,000 bbl. of oil. The new fields were Northeast Coalinga in Fresno County, and the Arvin and Strand fields in Kern County. The Arvin pool, opened in Section 16-31-29 by a 2,875-bbl. well was the first of the new pools. It was a joint test of the Superior, Standard and Texas companies. Northeast Coalinga in Fresno County was opened by Amerada Petroleum Corp. in Section 17-19-16 with a 4,230-bbl. well which also produced 14,200,000 cu. ft. of gas. The Strand pool was the discovery of Tide Water Associated Oil Co. in Section 7-30-26, the opening well starting at 1,306 bbl. Extended fields, opened in 1938, included Southeast Coalinga and the north flank of the Ventura Avenue structure.

Rocky Mountain Fields

Outside of New Mexico exploratory work had little success in the Rocky Mountain area. Five oil discoveries were made in southeastern New Mexico, three in Lea County, one in Eddy and one in Chaves. The Lovington pool opened in January by Skelly Oil Co., 10 miles north of the nearest production in the Hobbs area in Lea County, was an important find. The second well in the pool was completed 2 miles south of the first one and was good for 594 bbl. The new pool in Eddy County, known as Loco Hills, was opened in June by Martin Yates with a well starting at 420 bbl. per day. The Billingslea pool in Chaves County, which developed a 200-bbl. production in the discovery well in May, is the first commercial oil field in that county.

Illinois Was Potent Factor In Production of Crude Oil

By JAMES McINTYRE

Crude-oil production in the United States in the first 6 months of 1939 totaled 616,453,215 bbl. from 368,287 wells, or an average of 9.25 bbl. per day per well. In the first half of 1938 production was 597,051,489 bbl. from 355,893 wells, or an average of 9.27 bbl. per day per well.

The most noteworthy increase in crude output was registered by Illinois, which produced 32,706,748 bbl. during the half year, as against 7,807,255 bbl. in the same period in 1938, an increase of 24,899,493 bbl., or 319 per cent. The increase in Illinois exceeded the increase in the United States by 5,497,764 bbl., and inasmuch as production in Kansas fell off 29,359 bbl. and in Oklahoma 5,910,184 bbl., it may be seen what an unfavorable influence Illinois' big flush output had on the two states the production of which it directly competes with. The Illinois fields, nearer the great refining and consuming areas than Oklahoma and Kansas, took much of the market away from the two Mid-Continent states.

Efforts were made by conservative and experienced Illinois producers to induce the state legislature to pass a conservation law, as in New Mexico, Kansas, Oklahoma, and Texas, but without success, as the opposition was able to outtalk those in favor of such a measure, and the legislators, knowing little of the many problems surrounding the petroleum industry, appeared to think they were doing the state a favor by exhausting its oil resources as rapidly as possible. Conservation authorities in Texas, Oklahoma, and Kansas, with their greater experience in oil, saw the effect Illinois' rapidly growing, unrestricted production would have on the general oil situation and took measures that curtailed the crude output in their own states to a degree which meant a sacrifice to Texas, Oklahoma, and Kansas producers who had no oil wells in Illinois to compensate for their loss of market in the Southwest.

Kansas, with an enormous potential production and with many pools inactive because of the lack of a market, experienced a drop in production amounting to 29,359 bbl. under its total for the first half of 1938, but Oklahoma production fell off 5,910,184 bbl.

Texas production increased from 230,619,090 bbl. in the first half of last year to 242,036,601 bbl. in the first half of this year, a gain of 11,417,511 bbl. Oklahoma for years has been seriously affected by Texas' enormous production and Texas' advantage over Oklahoma in its nearness to the Gulf Coast refinery and tanker market. With Texas affecting it on

PRODUCTION UPS AND DOWNS

	First 6 months	
California—	1939	1938
Coalinga	2,004,114	2,137,714
Kern River	1,973,382	2,470,626
Kettleman Hills	9,988,878	14,012,555
Midway-Sunset	9,797,012	12,328,137
Mountain View	1,579,330	2,292,743
Mount Poso	2,363,181	3,511,415
Ventura Avenue	6,276,639	6,606,645
Santa Maria	3,062,311	2,898,429
Coyote	1,845,499	2,265,950
Dominguez	3,773,883	5,094,448
Huntington Beach	5,117,410	6,129,143
Inglewood	2,242,690	2,826,301
Long Beach	8,746,638	10,443,758
Santa Fe Springs	5,122,102	6,860,694
Elk Hills	1,831,755	1,981,090
Belridge	2,377,201	2,831,832
Round Mountain	2,059,490	3,003,837
Wilmington	15,444,998	16,877,932
El Segundo	634,189	2,633,325
Torrance	3,719,340	1,787,050
New Mexico—		
Hobbs	2,402,336	2,650,065
Eunice	4,192,818	4,590,642
Monument	4,390,471	4,897,969
Wyoming—		
Salt Creek	2,765,183	2,846,394
Lance Creek	2,690,319	2,123,482
Oklahoma—		
South Burbank	1,688,239	2,069,881
Nowata	2,277,010	2,117,310
Seminole field	9,272,069	8,944,440
St. Louis-Pearson	6,058,425	3,381,113
Fitts	5,303,294	9,655,171
Cushing	1,812,244	1,891,931
Oklahoma City	19,031,537	20,515,307
Lucien	1,656,193	1,819,928
Illinois—		
Centralia	1,223,945	658,427
Clay City	3,036,149	1,190,760
Louden	6,420,418	66,731
Salem	17,117,978	0
Noble district	802,990	2,900,910
Michigan—		
Buckeye	1,536,543	4,588,777
Freeman-Redding	2,207,004	0
Van Buren dist.	2,858,566	0

	First 6 months	
Texas—	1939	1938
McCamey	2,504,277	2,547,161
Chalk-Roberts	2,588,877	2,567,489
Yates	3,787,356	3,246,246
Cowden district	1,728,088	1,443,018
Wasson-Bennett	2,390,881	1,020,789
South Ward	1,291,516	1,910,244
Thompson	1,966,419	1,876,901
Hendrick	1,794,146	2,042,721
Goldsmith	3,427,705	2,074,035
Government Wells	1,880,587	3,145,449
Loma Novia	1,987,785	2,473,281
Conroe	5,066,644	5,940,383
Van	2,563,895	2,913,951
East Texas	71,341,523	74,877,468
Pampa	5,373,760	5,318,534
Borger	4,195,143	3,878,095
Hastings	3,356,302	3,419,873
Tomoconnor	2,349,958	2,092,853
Plymouth	2,257,839	2,284,770
Saxet	4,989,628	6,003,199
Kermit	2,671,359	2,860,779
Talco	5,431,327	4,582,809
K.M.A.	3,856,788	2,152,811
Louisiana—		
Rodessa (La-Tex-Ark)*	11,177,518	14,770,519
New Iberia	2,364,564	2,484,591
Caillou Island	2,689,343	3,292,550
Iowa	2,483,713	2,866,012
Jennings	4,782,878	3,256,812
Lafitte	2,704,953	2,849,441
Arkansas—		
Smackover	3,052,642	3,253,248
Schuler	3,313,534	2,404,293
Kansas—		
Silica	1,804,989	2,384,090
Trapp pools	1,626,009	1,928,975
Burrton	1,609,449	1,918,312
Total 75 fields	365,120,168	367,984,567
Other fields	251,333,047	229,066,919
Total	616,453,215	597,051,486

*Rodessa produced 5,083,088 bbl. in Louisiana; 5,222,340 bbl. in Texas and 872,090 bbl. in Arkansas.

Summary of Crude Production in United States First 6 Months of 1939

	1932 prod. first 6 months (bbl.)	1933 prod. first 6 months (bbl.)	1934 prod. first 6 months (bbl.)	1935 prod. first 6 months (bbl.)	1936 prod. first 6 months (bbl.)	1937 prod. first 6 months (bbl.)	1938 prod. first 6 months (bbl.)	1939 prod. first 6 months (bbl.)	No. of oil wells producing June 30	Av. daily prod. per well (bbl.)
New York	1,832,000	1,484,000	1,779,000	2,070,000	2,220,000	2,231,000	2,605,000	2,463,000	13,550	1.00
Pennsylvania	6,427,000	5,934,000	7,764,000	7,977,100	8,043,000	9,132,000	9,169,000	8,507,000	78,350	.60
Ohio	2,357,000	2,067,000	2,086,000	2,064,000	1,919,000	1,765,000	1,636,000	1,576,000	29,800	.29
West Virginia	1,996,000	1,732,000	2,013,000	1,994,000	1,901,000	1,909,000	1,877,000	1,793,000	13,175	.75
Kentucky	2,994,000	2,216,000	2,098,000	2,647,000	2,648,000	2,750,000	2,645,000	2,723,252	14,200	1.06
Michigan	2,950,000	2,730,000	5,325,000	7,013,012	6,522,837	6,934,784	9,745,025	11,236,956	2,482	25.01
Indiana	437,000	300,000	400,000	370,000	380,000	397,000	436,000	393,000	1,494	1.45
Illinois	2,610,000	1,764,000	2,283,000	2,062,000	2,126,000	2,358,000	7,807,255	32,706,748	17,043	10.60
Kansas	17,902,544	19,257,576	22,462,228	26,339,919	27,053,492	34,325,834	29,398,746	29,359,080	23,274	6.96
Oklahoma	77,113,805	80,157,672	91,123,782	91,029,607	97,707,445	113,908,732	87,741,228	81,831,044	55,859	8.09
North and Central Texas	13,544,129	12,991,033	16,036,425	16,327,288	16,635,792	18,858,383	18,704,088	20,687,428	25,042	4.56
West Texas	32,807,924	29,228,785	24,094,946	26,471,269	29,831,964	36,518,530	33,685,232	38,374,437	10,074	21.04
Texas Panhandle	9,124,081	8,196,618	9,590,219	11,025,590	11,236,648	14,000,039	11,638,141	12,098,171	4,090	16.33
East Central Texas	9,982,024	10,338,363	8,494,287	9,023,965	9,034,861	21,302,629	17,044,342	16,993,193	3,405	27.57
East Texas	60,752,039	103,604,436	90,653,119	86,351,888	85,066,114	83,318,369	74,877,468	71,341,533	25,987	15.16
Gulf Coast Texas-Louisiana	24,551,304	34,174,761	38,025,163	51,198,970	68,541,235	88,072,426	88,360,889	98,239,628	12,281	44.19
Southwest Texas	11,094,330	10,215,027	9,276,727	10,271,241	13,951,042	18,601,487	18,528,593	19,060,390	9,012	11.69
Arkansas	6,309,267	5,556,924	5,584,605	5,604,691	5,439,422	4,930,253	8,508,090	9,782,061	3,026	17.86
North Louisiana	5,269,165	5,235,949	4,806,844	4,179,084	12,070,265	13,627,403	14,328,785	13,256,760	3,774	4.56
Wyoming	6,602,252	5,537,278	5,802,926	6,349,226	6,454,110	9,832,294	9,024,307	9,760,765	3,680	14.60
Montana	1,196,703	1,075,239	1,399,599	1,933,704	2,683,543	2,961,228	2,424,600	2,711,510	1,799	8.33
Colorado	614,793	454,502	500,418	799,844	793,939	761,587	670,025	693,133	196	19.54
New Mexico	6,610,435	6,386,350	7,851,605	9,429,807	12,344,519	18,594,592	17,960,241	19,149,653	2,650	37.90
California	90,944,073	84,407,535	86,459,456	91,134,085	108,160,769	112,070,297	128,203,431	111,680,473	14,044	43.93
Miscellaneous*	2,000	1,000	4,000	.....	.....	.....	33,000	35,000	.....	.....
Total	396,023,868	435,046,048	445,914,349	473,667,290	532,764,997	619,160,867	597,051,486	616,453,215	368,287	9.25

*Miscellaneous includes Missouri, Alaska, Utah and Tennessee.

in Great Increase in First 6 Months

the south and Illinois on the north and east, Oklahoma operators were in an unenviable position in the last half of last year and the first half of 1939, and this condition will go on until Illinois is further drained of its crude-oil wealth. The greater portion of Illinois flush production is coming from two fields, Salem and Louden. Already the larger fields of last year—for example, Centralia and Noble—have been sadly depleted, and the 1939 pair of big producers, Salem and Louden—especially Salem—should reach a peak and start slipping over the ridge and downward in the not very distant future.

Few Large Fields Show Increase

Compared with their production in the first half of last year, few large fields show an increase in production this year. In California the Torrance field made a gain of 1,932,290 bbl., but the state as a whole showed a decline in production of 16,522,958 bbl., which may be attributed to the unceasing efforts of producers themselves, as California had no conservation law and whatever was done in the way of keeping production down had to be through the good will of those who owned producing wells. The conservationists failed in their efforts to get production below 600,000 bbl. per day. A conservation law passed late in the first half of the year by the legislature may be referred to the voters of the state, and as the misled voters overwhelmingly defeated one such measure a few years ago, the Atchison bill may meet a similar fate if it is put up to the voting public.

The Lance Creek field in Wyoming increased its production 566,337 bbl. over the same period last year. The ancient Nowata field in Oklahoma, by means of repressuring with water, increased its output 159,700 bbl., and repressuring has yet been carried on only on a comparatively small scale, as there are 120,000 productive acres in the Nowata district, most of which are still being developed by old-fashioned methods. The St. Louis-Pearson field in Pottawatomie County, Oklahoma, showed a notable increase of 2,677,312 bbl., or more than 85 per cent, and late in July was extended over into Seminole County. A consistent drilling campaign in search of production in sands and limestones overlooked in the early days of the Seminole-St. Louis boom was very successful, extending the productive limits of the field and increasing the production steadily.

The Salem field in Illinois, which produced 17,117,978 bbl. in the first half of this year, had no existence in the first half of last year, as the Texas Co.'s discovery well was not completed until August 1938. The Louden field produced 66,731 bbl. in the first 6 months of 1938 and 6,420,418 bbl. in the first half of this year. Louden was greatly handicapped by insufficient outlet. On the other hand, Salem had little such restraint. The Texas Co., Magnolia Petroleum Co., and numerous smaller concerns laid lines out of the field, either directly to refineries or to connections with the Illinois Pipe Line Co.'s trunk system, with the result that Salem was permitted to produce a much greater part of its daily potential than was Louden. The Noble field in Richland County, where production is mostly obtained from McClosky limestone, declined from 2,900,910 bbl. in the first half of last year to 802,990 bbl. in the same period this year. The Clay City field in Clay County increased from 1,190,760 bbl. in the first 6 months of 1938 to 3,036,149 bbl. in the same period in 1939.

Flush Fields in Michigan

In Michigan the Buckeye field, which produced 4,588,777 bbl. in the first half of last year, was down to 1,536,543 bbl. in the same period this year. The field was almost entirely drilled up before the close of 1938. To take the place of this decline in production, the Freeman-Redding field in Clare County produced 2,207,004 bbl. and the pools of Van Buren County 2,858,566 bbl. in the first 6 months of 1939. These pools were opened in the last half of 1938.

In Texas the Wasson-Bennett field in Yoakum County, in the Permian basin, greatly increased its crude output this year as compared to the same period last year. The field produced 1,443,018 bbl. in the first 6 months of 1938 and 2,390,881 bbl. in the same period this year. Other prominent Texas fields showing substantial gains included Yates, in Pecos County, with an increase of 541,110 bbl.; Goldsmith, Crane County, 1,353,670 bbl.; Hutchinson County, in the Panhandle, 317,048 bbl.; Tomoconnor, in Refugio County, 257,105 bbl.; Talco, in Titus and Franklin counties, 848,515 bbl.; and K.M.A., in Wichita County, 1,703,997 bbl.

In South Louisiana the Jennings, or Evangeline, pool increased 1,526,066 bbl., while in Arkansas the Schuler field increased 909,241 bbl.

Production Ups and Downs

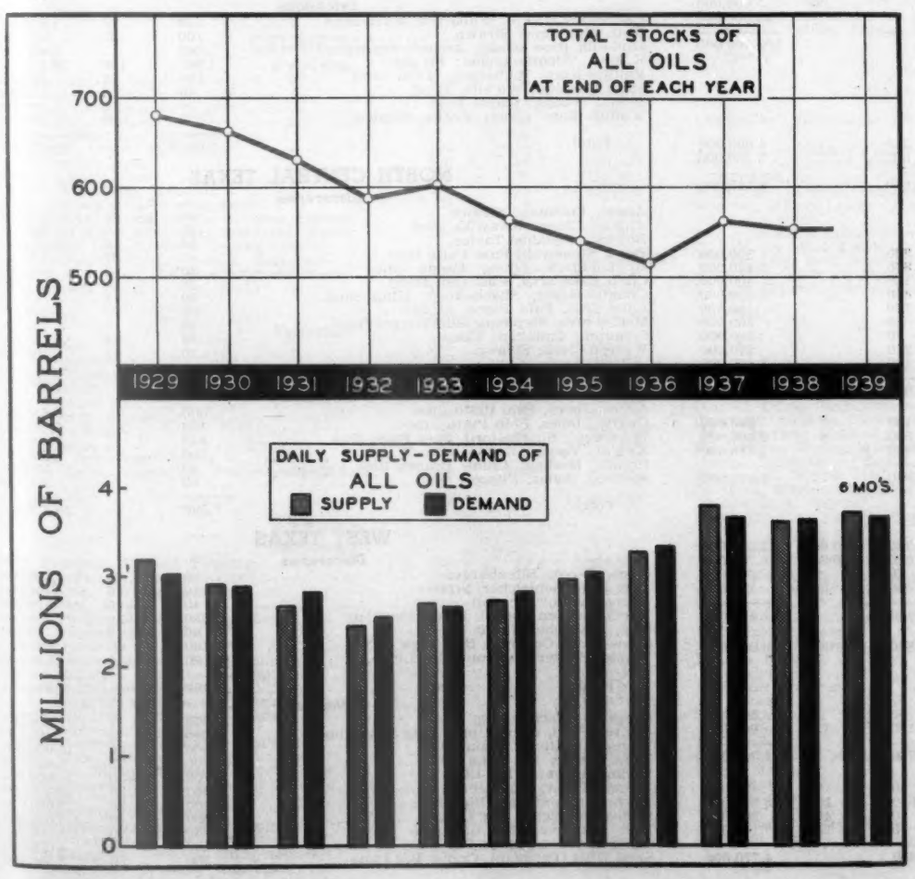
The following tables show the increases and decreases in production by states in the first 6 months, compared with production in the same period last year:

INCREASED PRODUCTION

	Barrels
Illinois	24,899,493
Kentucky	78,252
Michigan	1,491,931
North Central Texas	1,983,340
Texas Panhandle	460,030
West Texas	4,689,205
Southwest Texas	531,797
Gulf Coast Texas	7,340,215
Gulf Coast Louisiana	2,538,524
Arkansas	1,273,971
Wyoming	736,456
Montana	286,910
Colorado	23,108
New Mexico	1,189,412
Miscellaneous	2,000
Total	47,524,646

DECREASED PRODUCTION

New York	142,000
Pennsylvania	662,000
Ohio	60,000
West Virginia	84,000
Indiana	43,000
Kansas	39,666
Oklahoma	5,910,184
East Central Texas	51,149
East Texas	3,535,935
North Louisiana	1,072,025
California	16,522,958
Total	28,122,917
Net increase all states	19,401,729



Trends in the inventories of all oils for a period of 10 years. Note the relationship between supply and demand for all oils each year. The influence of the lack of balance is immediately reflected in the volume of stocks above

Crude Oil Reserves Increase in First 6 Months

Crude Oil Reserves Discovered First 6 Months 1939—Production for Same Period

STATE—	NEW DISCOVERIES (BBL.)	EXTENSIONS OLD FIELDS (BBL.)	TOTAL NEW OIL DISCOVERED	PRODUCTION (BBL.)	GAIN (+) OR LOSS (—) (BBL.)
California	20,000,000	107,500,000	127,500,000	111,680,473	+ 15,819,527
Rocky Mountain:					
Wyoming	.....	8,160,000	8,160,000	13,165,408	— 5,005,408
Central and Southern States:					
New Mexico	21,420,000	29,000,000	50,420,000	19,149,653	+ 31,270,347
Oklahoma	11,210,000	15,960,000	27,170,000	81,831,044	— 54,661,044
Kansas	45,510,000	37,160,000	82,670,000	29,359,080	+ 53,310,920
Texas	56,440,000	331,825,000	388,265,000	242,036,601	+146,228,399
North Louisiana	675,000	53,840,000	13,256,000	13,256,760	+ 41,258,240
Coastal Louisiana	55,500,000	66,275,000	34,758,000	34,758,179	+ 87,016,821
Arkansas	500,000	214,745,000	215,245,000	9,782,061	+205,462,939
Eastern States:					
Illinois	13,900,000	71,190,000	85,090,000	32,706,748	+ 52,383,252
Indiana	1,250,000	900,000	2,150,000	393,000	+ 1,757,000
Kentucky	3,000,000	960,000	3,960,000	2,723,252	+ 1,236,748
Michigan	7,800,000	4,440,000	12,240,000	11,236,956	+ 1,003,044
Eastern fields	2,622,000	2,000,000	4,622,000	14,339,000	— 9,717,000
Total	239,827,000	943,955,000	1,183,782,000	616,418,215	+567,363,785

The available reserve supply of oil underground in the United States increased during the first half of 1939 by a half billion barrels despite an increase of more than 9,000,000 bbl. in production over the first half of 1938. The net gain of crude reserves was 567,363,785 bbl.

Reserves for the 6-month period were computed as a separate unit with no attempt to revise the general reserve figures of old fields. The new oil is that discovered by the drilling in pools opened during that period and extensions or deeper pay formations in productive areas uncovered in 1938 and 1937.

CALIFORNIA

Discoveries

Field and county; producing formation—	Acreage proven	Formation thickness	Estimated reserves
Arvin field, Kern	.....	.....	5,000,000
Northeast Coalinga, Fresno	.....	.....	10,000,000
Strand, Kern	.....	.....	5,000,000
Total	.....	.....	20,000,000
Extensions			
Canal, Kern	.....	.....	5,000,000
Coles Levee, Kern	.....	.....	10,000,000
Rio Bravo, Kern	.....	.....	10,000,000
Tupman, Kern	.....	.....	2,500,000
Wasco, Kern	.....	.....	5,000,000
Southeast Coalinga, Fresno	.....	.....	25,000,000
Ventura Avenue, Ventura	.....	.....	10,000,000
Montebello Extension, Los Angeles	.....	.....	10,000,000
Rosecrans, Los Angeles	.....	.....	5,000,000
Wilmington, Los Angeles	.....	.....	25,000,000
Total	.....	.....	107,500,000

ROCKY MOUNTAINS

Extensions

WYOMING:			
Lance Creek:			
Sundance	320	.....	4,800,000
Leo	560	.....	3,360,000
Total	880		8,160,000

MICHIGAN

Discoveries

Bangor, Van Buren, Traverse	200	.....	800,000
Clapsaddle, Van Buren, Traverse	360	.....	1,440,000
Hopkins, Allegan, Traverse	100	.....	400,000
New Salem, Allegan, Traverse	400	.....	1,600,000
Otsego, Allegan, Traverse	120	.....	480,000
Allegan, Allegan, Traverse	90	.....	360,000
Diamond Springs, Allegan, Traverse	70	.....	280,000
Carscallen, Ottawa, Traverse	210	.....	840,000
Walker, Kent, Traverse	400	.....	1,600,000
Total	1,950		7,800,000
Extensions			
Overisel, Allegan, Traverse	150	.....	600,000
Freeman-Redding, Clare, Dundee	500	.....	2,000,000
Bloomingdale, Van Buren, Traverse	460	.....	1,840,000
Total	1,110		4,440,000

NEW MEXICO

Discoveries

Lovington, Lea; lime	1,760	35-60	12,320,000
Loco Hills, Eddy; sand	1,640	40-65	8,700,000
Lynn-Cooper (Extension), Lea; lime	40	5	300,000
North Mitchell, Lea; lime	40	55	100,000
Total	3,480		21,420,000
Extensions			
Lea County	5,800		29,000,000

EASTERN TEXAS

Discoveries

Rowe & Baker, Henderson; Woodbine	100	7	500,000
Swift (Navarro Crossing), Leon; Woodbine	160	12	960,000
Total	260		1,460,000
Extensions			
Flag Lake, Henderson; Woodbine	80	6	480,000
Navarro Crossing, Houston; Woodbine	680	15	3,880,000
Opelika, Henderson; Glen Rose	50	40	250,000
Willow Springs, Gregg; Glen Rose	40	24	160,000
Total	850		4,770,000

NORTH TEXAS

Discoveries

Field and county; producing formation—	Acreage proven	Formation thickness	Estimated reserves
Bonita, Montague; Strawn	360	15-40	1,320,000
Burns, Clay; Strawn	100	36	600,000
Griffin, Archer; Strawn	100	24	500,000
Halsell, Clay; Strawn	80	40	480,000
Hart, Archer; Thomas sand	40	10	120,000
Kadana, Archer; Caddo lime	80	30	480,000
Mankins, Archer; Caddo lime	40	30	160,000
Rogers & Rogers, Montague; Bend	120	15	720,000
Seymore, Baylor; Canyon	40	15	200,000
Sikes, Archer; Strawn	100	35	700,000
Voth, Cooke; Ellenburger lime	340	15	1,700,000
Walnut Bend (Deep), Cooke; Strawn	80	35	400,000
Total	1,480		7,380,000
Extensions			
Castlebury (Deep), Wilbarger; Milan sand	170	20	1,010,000
Hott, Montague; Strawn	100	35	480,000
Hull-Silk (two sands), Archer; Strawn	380	.....	2,600,000
K.M.A., Wichita-Archer; Strawn	1,000	100	10,000,000
Phillips-King, Wilbarger; Milan sand	160	22	800,000
State Hospital, Wichita; Bend	40	15	120,000
Sewell, Young; Caddo lime	10	10	160,000
Walnut Bend (Best), Cooke; Strawn	120	30	800,000
Total	1,980		15,970,000

NORTH CENTRAL TEXAS

Discoveries

Anzac, Coleman; Strawn	40	16	120,000
Appling, Jones; Swastika sand	80	10	320,000
Bowles, Callahan-Taylor	40	10	180,000
Boyd, Stonewall; Palo Pinto lime	40	37	220,000
Braden-Clark, Young; Caddo lime	20	12	100,000
Cisco Lake area, Eastland; Bend	20	24	60,000
Douglas-Baker, Shackelford; King sand	20	15	40,000
Lane area, Palo Pinto; Strawn	60	20	240,000
McKee area, Stephens; Ellenburger lime	40	15	120,000
Scranton, Callahan; Cisco	40	24	160,000
Warren, Jack; Strawn	20	43	100,000
Total	420		1,660,000
Extensions			
Avoca, Jones; Palo Pinto lime	500	.....	5,850,000
Griffin, Jones, Palo Pinto lime	450	.....	9,150,000
Ivy (deep), Shackelford, Palo Pinto lime	440	.....	3,300,000
Knight, Young; Caddo lime	100	.....	550,000
Pardue, Haskell, Adams Branch lime	40	.....	120,000
Steffens, Jones; Flippan sand	60	.....	300,000
Total	1,590		19,270,000

WEST TEXAS

Discoveries

Apco, Pecos; Ellenburger	80	40	200,000
Bert Page, Schleicher; Strawn	40	20	160,000
Lehn, Pecos; Permian	40	+25	120,000
North Cowden (Deep), Ector; Permian	80	+30	320,000
Opp, Schleicher; Cisco	40	+12	80,000
Shaw-Dean, Cochran; Big Lime	100	60	400,000
Waples-Platter, Yoakum; Big Lime	80	110	160,000
Total	460		1,440,000
Extensions			
Crockett, Crockett; Big Lime	250	12	1,500,000
Church-Field, Crane-Upton; Big Lake lime	640	75	4,480,000
Duggan, Cochran; Blaine lime	3,000	50	15,000,000
Dune, Crane; Big Lake lime	700	75	5,600,000
Emma, Andrews; Big Lime	100	+50	600,000
Foster, Ector; Big Lime	350	30	3,010,000
Furhman, Andrews; Big Lime	400	30	2,000,000
Goldsmith, Ector; Big Lime	500	40	5,625,000
Holt, Andrews-Ector; Big Lime	560	70	3,360,000
North Cowden, Ector; Big Lime	400	20	4,000,000
Sand Hills (Permian), Crane; Big Lime	500	50	3,500,000

Field and county; producing formation—	Acreage proven	Formation thickness	Estimated reserves
Sharon, Scurry; Big Lime	620	30	3,720,000
Shearer, Pecos; Pecos Valley sand	280	+32	1,000,000
Slaughter, Hockley; Blaine lime	5,000	70	25,000,000
Snyder, Howard; Big Lime	600	60	3,600,000
Swenson, Garza; Pennsylvanian	40	.....	320,000
Wasson-Denver, Gaines-Yoakum; Big Lime	6,000	130	48,000,000
Total	19,940		130,315,000

TEXAS LOWER GULF COAST

Discoveries

Ben Bolt, Jim Wells, Frio-Vicksburg	300	50	9,000,000
Blucher, Jim Wells, Frio-Vicksburg	100	10	1,000,000
Camada, Jim Wells, Jackson	50	15	1,000,000
East Mathis, San Patricio, Marginulina	25	10	100,000
La Gloria, Jim Wells, Frio-Vicksburg	1,000	10	3,000,000
Mellon Creek, Refugio, Frio	640	20	7,500,000
Minnie Bock, Nueces, Catahoula	300	15	5,000,000
Muralla, Duval, Pettus	20	10	50,000
North Luby, Nueces, Heterostegina	20	10	200,000
Reynolds, Jim Wells, Frio-Vicksburg	200	25	2,000,000
South Alfred, Jim Wells, Frio-Vicksburg	150	15	2,250,000
Southland, Cockfield, Cockfield	200	15	1,500,000
Magnolia City, Jim Wells, Frio-Vicksburg	80	10	300,000
Chiltipin, Duval, Pettus	10	10	100,000
Total	3,095		33,000,000

Extensions

East White Point, San Patricio, Frio	1,000	20	27,500,000
La Rosa, Refugio, Frio	400	.....	10,000,000
East Premont, Jim Wells, Frio-Vicksburg	600	.....	20,000,000
Fitzsimmons, Duval; Pettus	800	10	9,000,000
Richard King, Nueces, Frio	200	10	2,000,000
Total	3,000		68,500,000

UPPER TEXAS GULF COAST

Discoveries

Aldine, Harris, Yegua	80	10	500,000
Caplan, Galveston, Frio	100	30	5,000,000
Martha, Liberty, Yegua	40	10	1,000,000
North Houston, Harris, Yegua	100	10	800,000
South China, Jefferson, Frio	40	15	2,500,000
Total	360		9,800,000

Extensions

Armour, Matagorda, Frio	40	10	500,000
Clear Lake, Harris, Frio	150	15	600,000
Clam Lake, Shallow sands (new), Jackson, Miocene	100	10	500,000
Cordelle, Jackson, Miocene	100	15	4,000,000
Esperson, Liberty, Yegua	60	20	900,000
League City, Galveston, Frio	700	30	10,500,000
Lovell's Lake, Jefferson, Frio	400	10	3,000,000
Thompsons, Ft. Bend, Vicksburg	150	75	6,000,000
West Ranch and Vanderbilt, Jackson, Frio	900	25	12,000,000
Friendswood, Harris, Frio	700	.....	40,000,000
Total	3,300	.....	78,000,000

SOUTHWEST TEXAS

Discoveries

Adami, Webb, Cole	100	9	300,000
Glenn, Guadalupe, Dobie lime	10	.....	50,000
Kingsbury, Guadalupe, Dobie lime	5	.....	25,000
North Ricaby, Starr, Mirando	10	10	50,000
Red Rock, Bastrop, Chalk-Lime	10	.....	75,000
Volpe, Webb, Mirando	320	10	1,000,000
White Creek, Live Oak, Government Wells	40	10	200,000
Total	495		1,700,000

Extensions

Rincon, Starr, Frio-Vicksburg	1,000	10	15,000,000

OKLAHOMA

Discoveries

East Searight, Seminole; Cromwell	180	30	1,350,000
East Tuskegee, Creek; Dutcher	260	16	1,300,000
Micawber, Okfuskee; Wheeler	20	10	20,000
West Doyle, Stephens; Deese	80	36	1,200,000
Newalla, Oklahoma; Hunton	60	90	240,000
East Bruce, Creek; Bartlesville	160	13	400,000
Pierce, Osage; Prue	320	40	800,000
Hobart, Kiowa; Viola	20	5	160,000
Norman, Cleveland; dolomite	40	15	120,000
Spring Extension, Jefferson; sand	20	4	.....
St. Louis Ext., Pottawatomie; Misener, Hunton	320	68	1,280,000
West Little River Extension, Seminole; Wilcox	240	7	1,200,000
Brown Deep pool, Garfield; Second Wilcox	80	10	200,000
Gray Extension, Pottawatomie; Earlsboro	160	10	640,000
Shawnee Extension, Pottawatomie; Earlsboro	400	48	2,000,000
Miscellaneous	100	.....	300,000
Total	2,200		11,210,000

Extensions

Sac and Fox; Prue	240	10-30	1,200,000
Cement; Deese-Hoxbar-Pontotoc	240	5-50	2,400,000
Grayson; dolomite-lime	360	20	1,800,000
Creek County; Prue-Bartlesville-Wilcox	640	5-50	2,560,000
Coyle; Hunton lime	80	50	400,000
Coyle-Wilcox; Wilcox	240	25	1,440,000
Ramsey; Wilcox	80	30	800,000
Avoca; Viola	320	20	1,920,000
Frederick, Deep Sand; Deese	40	30	240,000
Other St. Louis Extensions; lime-dolomite-Wilcox	640	10-50	3,200,000
Total	2,880		15,960,000

KANSAS

Discoveries

North Fairfield, Russell, Lansing	320	12	1,920,000
Ainsworth-Topeka, Barton; Topeka	180	26	450,000
Kruckenberg, Barton; Arbuckle	320	20	640,000
Profitt, Rice; Arbuckle	320	8	800,000
Coralena-Dodge, Russell, Dodge lime	160	8	560,000
Ferrell, Butler; Mississippi	80	5	120,000
Miltz, Marion; Chat	40	60	40,000
Beaver-Shallow, Barton, Topeka lime	160	26	1,120,000
Southwest Letsch, Russell, Lansing	320	40	1,280,000
Marchand, Barton, Arbuckle	640	12	2,560,000
Kruckenberg, Lansing-Barton, Lansing	320	15	960,000
Goodrich-Lansing, Sedgwick; Lansing	160	20	800,000
Gardner, Johnson; Bartlesville	640	8	1,280,000
Gardner, Johnson; Bartlesville, Squirrel	640	20, 16	1,280,000
Midway, Rice, Arbuckle	640	15	2,560,000
Van Patten, Norton; Lansing	40	21	100,000
West Marchand, Barton; Arbuckle	320	2	960,000
Bow Creek, Phillips; Lansing	320	30	1,280,000
Teichmann, Stafford; Lansing	320	16	1,280,000
Coralena Extension, Russell; Lansing	320	14	1,280,000
Campbell Extension, Rice; Arbuckle	1,000	21	6,000,000
Burnett Extension (Peavey), Ellis; Arbuckle	640	15	5,120,000
Morel Extension, Graham; Arbuckle	400	4	2,400,000
Leesburgh Extension, Stafford; Arbuckle	320	51	2,560,000
Chindberg Extension, McPherson; Chat	40	20	40,000
Bloomer-Stumps Connection, Ellsworth; Arbuckle	640	18	3,200,000
Chase Extension (Barngrover), Rice; Arbuckle	400	15	2,400,000
Chase Extension, Rice; Arbuckle	320	3	1,120,000
Silica Extension, Rice; Arbuckle	400	4	1,400,000
Hittle Extension, Cowley; Arbuckle	480	15	9,600,000
Wherry Extension, Rice; Conglomerate	280	11	1,120,000
North Atherton, Russell; Arbuckle	80	10	320,000
Total	11,260		45,510,000

Extensions

Bemis, Ellis; Arbuckle	320	12	3,200,000
Buhler, Reno; Simpson	140	8	560,000
Clawson, Barton; Arbuckle	160	10	800,000
Cramm, Rice; Arbuckle-Lansing	720	12	4,320,000
Edwards, Rice; Arbuckle	120	15	600,000
Geneseo, Rice; Arbuckle	460	10-20	3,680,000
Gomez, Russell; Lansing	300	15	1,200,000
Letsch, Russell; Arbuckle	180	14	1,080,000
Hall, Russell; Lansing	80	12	400,000
Laton, Rooks; Arbuckle	80	10	320,000
Prusa, Barton; Basal	80	8	240,000
Schneider, Russell; Arbuckle	140	10	1,120,000
South Trapp, Barton; Arbuckle	100	10	600,000
Wilkins, Ellsworth; Arbuckle	480	8	2,880,000
Zenith, Stafford; Misener	160	.....	1,120,000
Miscellaneous	1,000	.....	4,000,000
Total	4,520		37,160,000

LOUISIANA GULF COAST

Discoveries

Bell, Allen; Marginulina	50	25	500,000
Eola, Avoyelles; Wilcox	1,000	100	50,000,000
Grand Lake, Cameron; Miocene	100	30	1,500,000
Kenilworth, St. Bernard; Miocene	50	20	750,000
La Pice, St. James; Miocene	50	60	2,000,000
Paradis, St. Charles; Miocene	50	25	750,000
Total	1,300		55,500,000

Extensions

Bancroft, Beauregard; Cockfield	1,200	20	18,000,000
Chalkley, Cameron; Miocene	600	10	4,500,000
Creole, Cameron:			
5,100-ft. sand; Miocene	100	25	1,500,000
5,700-ft. sand (new); Miocene	50	10	375,000
Golden Meadows, La Fourche; Miocene	600	30	9,000,000
Grand Bay, Plaquemines:			
7,100-ft. sand; Miocene	200	10	1,500,000
9,700-ft. sand; Miocene	50	68	1,000,000
South Houma, Terrebonne; Miocene	120	10	2,000,000
Timballer Bay, La Fourche:			
6,700-ft. sand (new); Miocene	100	15	1,500,000
University, East Baton Rouge; Miocene	600	12	5,000,000
Villa Platte; Evangeline:			
8-900-9,000-ft. sand; Sparta	1,000	40	20,000,000
10,000-ft. sand (new); Wilcox	50	30	800,000
West Lake-Verret; St. Martin; Miocene	100	10	750,000
Woodlawn, Jefferson Davis:			
9,300-ft. sand (new); Marginulina	50	10	350,000
Total	4,820		66,275,000

NORTH LOUISIANA

Discoveries

Vivian, Caddo; Woodbine sand	500	9	675,000

Extensions

Cotton Valley, Webster:			
Bodcaw distillate sand; Lower Marine	11,000	45	40,800,000
Bodcaw oil sand; Lower Marine	500	20	4,000,000
"D" oil sand; Lower Marine	750	25	5,000,000
Shreveport, Caddo; Lower Glen Rose	2,700	9	4,000,000
Blue Lake, Sabine; Paluxy lime	50	10	40,000
Total	15,000		53,840,000

ARKANSAS

Discoveries

Lewisville, Lafayette; Lower Glen Rose	300	10	500,000

Extensions

Atlanta, Columbia; Smackover lime	200	17	1,020,000
Buckner, Columbia-Lafayette; Smackover lime	750	40	3,000,000
Champagnolle, Union; Crain sand	100	10	125,000
Magnolia, Columbia; Smackover lime	3,500	140	150,000,000
Rodessa, Miller; Lower Glen Rose	2,250	35	7,500,000
Schuler, Union:			
Jones sand; Lower Travis Peak	3,060	60	40,500,000
Morgan sand; Lower Travis Peak	110	20	4,500,000
Reynolds lime; Smackover lime	1,250	90	5,000,000
Snow Hill, Ouachita; Smackover lime	100	15	100,000
Village, Columbia; Smackover lime	600	65	3,000,000
Total	11,920		214,745,000

ILLINOIS

Discoveries

Iola, Clay; Aux Vases	40	10	400,000
Mattoon, Coles, Cypress	20	10	100,000
Hutton, Coles, Pennsylvanian sand	40	8	400,000
Junction, Gallatin, Waltersburg	60	10	600,000
Tonti, Marion; McClosky	80	20	1,000,000
Stewardson, Shelby; Aux Vases	20	12	100,000
Cordes, Washington; Bethel	400	11	5,000,000
Enterprise, Wayne; McClosky	300	14	3,700,000
Barnhill, Wayne; McClosky	120	17	1,700,000
Golden Gate, Wayne:	40	9	300,000
North Griffin, Wabash; Cypress	40	22	600,000
Total	1,160		13,900,000

Extensions

Alden, North, Wayne; McClosky	180	31	1,000,000
Boyleston, Wayne; McClosky	80	26	500,000
Cisne, Wayne; McClosky	410	30	2,050,000
Clay City, Clay-Wayne; McClosky	600	34	3,000,000
Dix, Marion; Benoist	100	22	500,000
Elk Prairie, Jefferson; Benoist	30	20	150,000
Louden, Fayette:			
Weller	2,000	25	10,000,000
Paint Creek stray	1,360	18	6,800,000
Bethel	1,740	20	10,440,000
Noble, Richland:			
Weller	200	20	800,000
McClosky	330	30	1,650,000
Olney, Richland; McClosky	40	32	200,000
Salem, Marion:			
Benoist	800	38	4,800,000
McClosky	3,000	46	23,100,000
Aux Vases	700	32	4,900,000
St. James, Fayette; Bethel	140	25	1,200,000
Sandoval, Marion; Devonian	40	10	100,000
Total	11,750		71,190,000

GOV. EARL K. LONG

Gov. Long Expects To Bring Order in State Operations

In an interview with a representative of The Oil and Gas Journal, Louisiana's chief executive declares that many past practices will be ended

By NEIL WILLIAMS

BATON ROUGE, La., July 25.—Louisiana definitely can be counted on to do its part in the prevention of overproduction of oil, Gov. Earl K. Long told the writer in an exclusive interview.

No excessive flood of oil will be permitted to be loosed upon the market from this state, he said, adding that cooperation in every way possible will be given other states in their efforts to insure orderly and conservative development and production of oil or gas so stability of general conditions might be preserved.

Coming at a time when the rising production of Louisiana, particularly in the coastal district, is creating considerable apprehension on the part of operators of other states, these assurances are regarded as significant.

Taking over the governor's chair at a time when the state is being rocked with a political scandal that threatens to reach into oil activities, Governor Long's position is not easy. Much of his time is being taken with investigations.

Studying Problem

Professing to know very little about the oil business, he said that as yet he had no definite proposals on the subject, but that he is making a thorough study and investigation of oil activities and if there is anything that needs attention or correction, everything possible, so far as his administration is concerned, would be done.

"I have no interests of any kind in any oil company," he said in explaining he knew little of the oil business. "I do not own any oil leases, nor do I have a single acre of royalty. However, I am concerned with the good of the oil industry."

Actual administration of the state's conservation laws and regulation of oil and gas production is not directly in his hands, the governor pointed out. This, he said, is a responsibility of the conservation commissioner, whose appointment, although by the governor, is for a 4-year term, approved by the state senate, and who cannot be dismissed without due cause determined by the senate.

However, on Monday, following a conference between the governor, Mayor Robert S. Maestri of New Orleans and other state leaders, William G. Rankin, the conservation commissioner, resigned upon request of Governor Long, and state Senator Ernest Clements was appointed to succeed him. The governor reinstated Dr. J. A. Shaw as head of the Minerals Division of the Conservation Department who was ordered removed 3 weeks ago, David McConnell of the Shreveport division, brother of Mrs. Huey P. Long, having been named in his stead. Dr. Shaw, however, had continued in his office in full charge of oil regulations and permits.

Governor Long gave out the following copy of Mr. Rankin's "resignation."

"You have requested that I resign as commissioner of conservation, giving as your reason that you had just become governor and you should be given the right to appoint the heads of all executive departments.

"Although I am a constitutional official and only removable for cause, it is my desire to aid you in giving the state a good administration. Therefore I resign at your request and I wish you success."

Mr. Rankin was reported to have been summoned to the federal building this morning to be questioned on oil matters.

Mr. Rankin's name has been widely publicized in connection with an inquiry regarding the new geological building at the Louisiana State University. Repeated demands had been made upon the governor that he dismiss Mr. Rankin, but these had been turned down on the grounds he did not have the authority to act, as Mr. Rankin's term does not expire until next May. Mr. Rankin since has given an accounting to the governor of funds handled by his department.

Two more federal executives concerned with the hot oil probe in Louisiana arrived Monday to join the staff of Clifford W. Rowland, senior examiner for the Petroleum Conservation Division, who has opened an office in New Orleans to conduct his inquiries. They were George W. Holland, of the Department of the Interior, and Jack W. Steele of Kilgore, Tex., chairman of the Federal Tender Board No. 1. Both immediately conferred with federal District Attorney Rene A. Viosca and Arnold Raum, special assistant to the U. S. attorney general.

"I have no idea how long I shall be here," Mr. Holland said. "However, Mr. Steele will be in and out of New Orleans intermittently as long as this probe lasts."

Governor Long did not elaborate on what was meant when he said that Louisiana would cooperate with other states in oil production control, although he inferred that he would support any constructive program for equitable curtailment of production, and did not desire that Louisiana production reach such a volume that stability of markets and conditions, not only in this state but in other states, would be endangered.

Questioned as to whether his assurance of cooperation meant joining the Interstate Oil Compact Commission, he merely reiterated that Louisiana would cooperate with other states in every way possible. It was at this point that he said he knew little of oil activities and was not in a position to make a definite commitment on any particular phase.

Checking Situation

In discussion of the relatively high allowables being allocated by the Department of Conservation to some fields and operators in coastal Louisiana, Governor Long stated he is making a check of the situation, and if he finds any inequities or excessively high allocations, he will see that they are remedied. Plans are now being formulated, he revealed, for a generally more conservative and equitable allocation of allowables.

Liberal per well allowables granted many coastal Louisiana fields, which have been the object of much criticism on the part of producers in neighboring states, still are regarded justified in many instances by conservation officials and operators of Louisiana. The fact that, with few exceptions, fields of coastal Louisiana have been more conservatively developed with wider spacing programs, and on the whole have involved much deeper and more costly drilling, due to marsh, swamp and isolated locations of many of them, seem to merit special consideration. It is argued in that district, that proration there is further advanced than in any other state, in that it starts not with production but with the very beginning of development. These facts are expected to be impressed upon Governor Long in his check of proration activities within that state.

Attention of the industry is now being directed to the various federal investigations being launched in Louisiana. The scope of these is being extended to cover a wide range of oil activities, which, it is intimated, may involve dealings of the Department of Conservation. In the meantime, Governor Long's private inquiry into af-

(Continued on Page 76)

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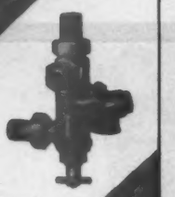
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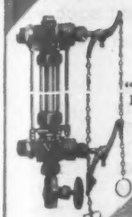
"Navy Type" Liquid Level Gage

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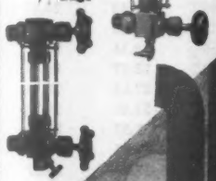
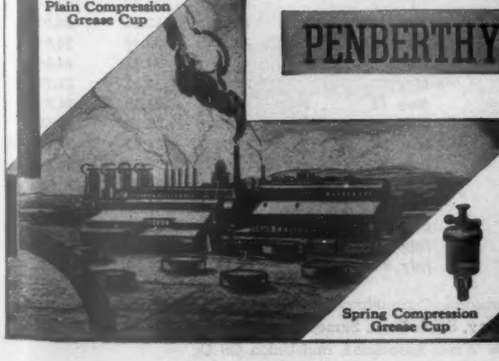

"All-Iron" Automatic Liquid Level Gage

Gas Engine Lubricator

Snap Lever Oiler

Plain Brass Oil Cup

Plain Compression Grease Cup



Screw Plunger Grease Cup

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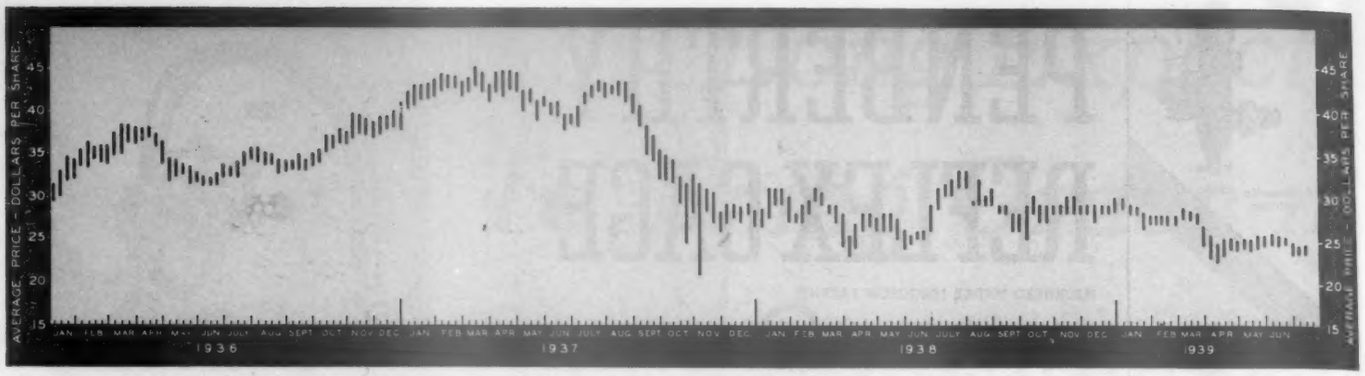
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1936
1937
1938
1939

Average of high and low quotations on 30 representative common oil stocks listed on New York markets. Uppermost point on each vertical line represents average of highs while the base represents average of lows. Data reflect market at close of each week

TRENDS
in the market value of oil
STOCKS

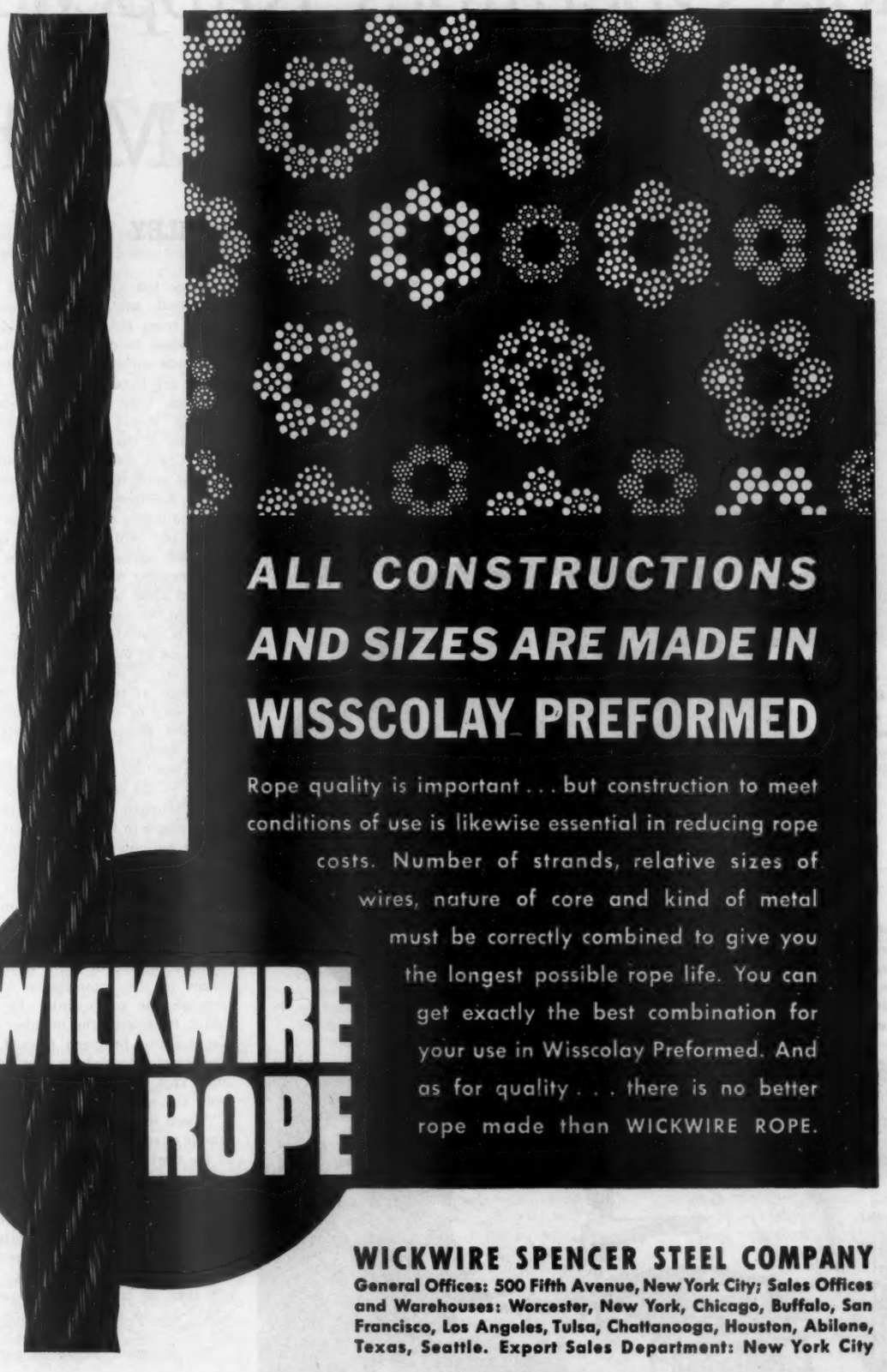
(Averages Compiled by Carl H. Pforzheimer & Co.)
Member New York Stock Exchange and New York Curb Exchange

1937	HIGH	LOW	CLOSE
January 2	42.22	40.08	41.05
January 9	42.97	40.45	42.15
January 16	42.98	41.23	42.15
January 23	43.25	41.27	42.94
January 30	43.61	41.60	43.03
February 6	44.44	42.20	43.45
February 13	44.28	42.61	43.35
February 20	44.03	42.44	43.17
February 27	43.39	41.49	42.37
March 6	43.83	41.90	43.25
March 13	45.26	42.82	43.94
March 20	44.48	42.05	42.52
March 27	43.15	40.94	42.79
April 3	44.50	42.22	43.95
April 10	44.66	41.54	42.89
April 17	44.63	42.35	43.57
April 24	44.47	42.01	42.26
May 1	42.40	39.46	41.77
May 8	42.54	40.97	41.39
May 15	41.32	38.79	39.67
May 28	41.67	40.47	40.97
June 5	40.97	39.59	40.57
June 12	41.19	34.38	39.54
June 19	39.71	37.79	39.31
June 26	39.81	38.55	39.29
July 3	40.75	38.27	40.58
July 10	42.20	40.83	41.59
July 17	43.02	41.53	42.51
July 24	43.55	41.18	43.01
July 31	43.27	41.55	42.59
August 7	42.92	41.87	42.09
August 14	43.44	41.76	43.03
August 21	43.43	40.89	41.28
August 28	41.89	39.58	39.93
September 4	40.64	38.27	38.94
September 11	38.52	34.93	35.59
September 18	37.31	34.19	35.30
September 25	35.51	32.04	32.40
October 2	34.88	31.98	34.28
October 9	34.54	31.62	32.40
October 16	32.33	29.19	29.82
October 23	31.65	24.45	28.80
October 30	32.61	28.14	31.90
November 6	31.55	28.80	29.03
November 13	30.92	28.33	30.23
November 20	30.53	26.92	27.54
November 27	28.33	25.79	27.96
December 4	29.23	26.99	28.61
December 11	29.11	27.50	28.09
December 18	28.86	26.97	28.52
December 24	29.45	27.97	28.49
December 31	28.50	26.41	27.42

1938	HIGH	LOW	CLOSE
January 8	30.15	27.38	29.89
January 15	31.03	29.31	30.30
January 22	30.52	29.10	29.45
January 29	29.62	27.02	27.25
February 5	28.31	26.76	27.75
February 12	28.74	27.21	28.42
February 19	29.50	27.99	29.42
February 26	31.01	29.47	30.28
March 5	30.41	28.98	29.26
March 12	29.28	27.62	27.99
March 19	28.9	26.8	27.3
March 26	27.79	24.18	24.41
April 2	25.14	22.68	24.64
April 9	26.99	24.36	26.84
April 16	28.07	25.80	27.98
April 23	28.33	26.47	27.75
April 30	27.48	25.91	26.19
May 7	27.74	25.83	27.57
May 14	27.89	26.23	26.55
May 21	26.55	25.25	25.32
May 28	25.71	24.14	24.55
June 4	25.52	24.51	25.38
June 11	26.39	25.12	25.87
June 18	26.04	25.05	25.62
June 25	29.21	25.95	28.97
July 2	31.12	28.53	30.90
July 9	31.49	29.90	30.73
July 16	32.17	29.99	31.39
July 23	32.60	31.05	32.15
July 30	32.64	30.76	31.32
August 6	29.50	28.76	29.18
August 13	31.64	29.32	29.58
August 20	30.46	29.42	40.04
August 27	30.61	29.03	29.23
September 3	29.35	28.01	28.95
September 10	29.19	27.86	28.03
September 17	28.34	25.89	26.46
September 24	28.27	26.09	26.73
October 1	29.09	25.31	28.92
October 8	29.93	27.94	28.45
October 15	28.70	27.08	27.93
October 22	29.14	27.29	28.78
October 29	29.40	28.10	28.36
November 5	28.98	27.93	28.55
November 12	29.87	28.40	29.53
November 19	29.58	28.14	28.50
November 26	29.02	28.07	28.41
December 3	28.79	27.63	28.14
December 10	28.59	27.42	28.73
December 17	29.21	27.57	28.63
December 24	28.93	27.81	28.50
December 31	29.66	27.91	29.52

1939	HIGH	LOW	CLOSE
January 7	29.89	28.88	29.09
January 14	29.19	28.17	28.59
January 21	29.04	28.18	28.37
January 28	28.12	26.34	26.97
February 4	27.98	27.06	27.68
February 11	27.78	27.09	27.34
February 18	27.73	27.03	27.42
February 25	27.75	26.85	27.37
March 4	27.93	26.95	27.90
March 11	28.70	27.44	28.40
March 18	28.53	26.72	26.86
March 25	27.31	26.15	26.64
April 1	26.77	24.52	25.07
April 8	25.72	23.09	23.15
April 15	24.89	22.64	24.57
April 22	25.17	23.46	24.89
April 29	25.24	24.21	24.50
May 6	25.09	24.12	24.79
May 13	25.28	24.50	24.89
May 20	25.10	24.18	24.66
May 27	25.69	24.43	25.40
June 3	25.68	24.77	25.16
June 10	25.89	24.84	25.71
June 17	25.72	24.62	25.53
June 24	25.43	24.76	24.92
July 1	24.92	23.53	23.88
July 8	24.38	23.73	24.00

Thirty companies whose common stocks make up the average values shown above: Amerada, Atlantic, Barnsdall, Consolidated, Continental, Creole, Gulf, Humble, Imperial, International, Mid-Continent, Ohio Oil, Phillips, Plymouth, Pure Oil, Seaboard Oil, Shell Union, Skelly, Socony, South Penn, Standard of California, Standard of Indiana, Standard of Kentucky, Standard of New Jersey, Standard of Ohio, Sun, Texas Co., Texas Pacific Coal & Oil, Tide Water Associated, and Union Oil Co.



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Illinois Operators Rapped For Production Methods

By T. F. SMILEY

SANTA FE, N. M., July 22.—"There goes Daniel to the lion's den!" somebody whispered as Dr. Alfred H. Bell, head of the oil and gas division of the Illinois Geological Survey, took the platform to report for his state at the quarterly meeting of the Interstate Oil Compact Commission, held here Wednesday and Thursday of this week.

It was inevitable that Illinois should be a target for criticism because of its failure to enact a conservation law; but though resentment flared at times during the sessions, there was nothing but friendly regard for Dr. Bell, who confined his talk closely to statistics.

Since the spring meeting of the commission, Dr. Bell said, Illinois daily production had risen from 175,000 bbl. to 261,000, most of it in the Salem field, where the daily average production was exceeded by East Texas only. There already are 10,000 acres in the field proved for production, with untested possibilities at greater depths. Rapid increase in production has made disposal of the crude an acute problem. Most of the output, said Dr. Bell, runs to points in the central refining district, composed of Illinois, Indiana, Kentucky, Michigan, and eastern Ohio. Under the policy of unrestricted production about 35 or 40 per cent recovery is expected, much less, Dr. Bell agreed, than would be obtained under conservation methods. One well's initial production of 2,640 bbl. declined to 4 bbl. in one year. Even in the case of flowing wells pumping equipment is moved in as soon as a well is completed. The peak of output is expected to be reached late this year or early in 1940. Runs to stills have increased 44 per cent in 6 months.

By way of expressing their good will toward Dr. Bell personally the delegates gave him a warm hand.

The sessions were held in the Hall of Representatives in the capitol, with Col. Ernest O. Thompson, chairman of the commission, presiding. All seven states in the commission, with 68.73 per cent of the nation's oil production—Colorado, Illinois, Kansas, Michigan (new member), New Mexico, Oklahoma, and Texas—were represented. Two state executives were there in person, Gov. John E. Miles, New Mexico, and Gov. Leon C. Phillips, Oklahoma.

Suspicion and distrust, which marked the early stages of the commission, have vanished; and through the opportunity for candid discussion which it affords, the member oil states are making definite progress toward rational, effective conservation measures and friendly understanding. This was among clear facts that emerged from the meeting.

"When it comes to doing a needed thing in the matter of oil conservation," said Governor Phillips at the opening session, "the relations between the states and between the states and the federal Government should be those of good neighbors. This commission provides the channel through which desired ends can be accomplished. Oklahoma intends to continue to be a good neighbor among its sister states in this work. I have no immediate fear of the federal Government doing or trying to do things that the states themselves can do."

The governor expressed appreciation of the

(Above) "Glad you're here!" said Col. E. O. Thompson (right), chairman, to P. J. Hoffmaster, of Michigan, newcomer in the commission

William Alberts, land commissioner (left), is sure Arizona will be the next oil state and he assures Gov. John E. Miles, New Mexico, it won't be long now

Four oil men get a place in the sun: C. D. Watson, executive assistant, Carter Oil Co.; H. M. Stalcup, vice president in charge of production, Skelly Oil Co.; C. P. Dimit, vice president in charge of production, Phillips Petroleum Co.; D. R. Snow, executive vice president, Barnsdall Oil Co.

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work done by Colonel Thompson in the solution of complicated problems of production and conservation without violating the rights of states.

On invitation of Colonel Thompson, William Alberts, state land commissioner of Arizona, took a seat among the representatives of compact states.

"Arizona expects to be the next oil state," Mr. Alberts smilingly announced. "We haven't any oil laws yet, because we haven't the oil to make laws about. I'm here because we want to keep up with modern engineering practice, so that when we get oil we'll know what to do. Eight wells are being drilled. One of them has penetrated three different oil zones in a total of 310 ft. It will be completed soon. By the time you hold your next meeting we should be talking the same language you do."

Excessive refinery runs have created a temporary and artificial demand for crude oil, said Edward F. Roeser, president of the Independent Petroleum Association of America, in a report on balance of supply with demand. Refinery operations must be slowed down if wasteful accumulations of products are to be avoided, and production rates must be lower than the June level to insure gradual reduction of crude stocks. Uneconomic refinery operations have been carried on, Mr. Roeser said, in the East Coast, the Indiana-Illinois-Kentucky area, and the Gulf Coast. He said responsibility rested primarily with 15 integrated companies, which control most of the refining capacity in these areas. If Illinois production continues to rise and refinery operations slacken, the regulated states will have to reduce their output to avoid excessive stocks of crude.

The upward trend of imports was deplored by Mr. Roeser, who said imports of petroleum and its products in May 1939 exceeded those of the same month last year 57 per cent. The June increase was 27 per cent. Two companies, said Mr. Roeser, bring in approximately 80 per cent of the total imports of foreign oil.

"Who are they?" asked Colonel Thompson.

"Standard of New Jersey and Gulf."

Later Hines H. Baker, head of the Humble Oil & Refining Co.'s legal department, announced he had talked with W. S. Farish, president of Standard of New Jersey, by telephone. Mr. Farish had explained the increased importations of his company resulted from the fact that the maritime strike had been foreseen. To be prepared for it the company had imported 10 per cent more oil during the first half of the year than it had in the first half of 1938. With this supply used up, however, Mr. Farish had said Standard's importations for the full year would not average more than 3 per cent above last year's. Mr. Baker presented figures designed to show that both Standard of New Jersey and Humble had reduced their stocks of crude and gasoline and were cooperating with the commission.

No representative of Gulf Refining Co. was present.

Harold L. Ickes, executive vice president of the Independent Petroleum Association of America, submitted a report on minimum standards of conservation and equitable proration, outlining essential fundamental principles. These principles related to stocks of products, balance of supply with demand, imports, stripper wells, basic allowables, maximum rates of flow, ratable takings, special allowables and discrimination in purchase, well spacing, conservation laws, and crude prices. The report is to be acted on at the fall meeting after being studied.

Demand for all oil products is reaching the highest peak in history, Dr. A. G. White, head of the Petroleum Economics Division of the Bureau of Mines, told the commission. Demand for distillate fuel oil is running 15 per cent above last year's. Demand for residual fuels, which fell last year, has fully recovered east of California. Though demand is satisfactory, profits are disappointing. Excessive stocks of gasoline east of California present the principal problem.

Excessive crude runs are mainly responsible for mounting gasoline stocks, Dr. White said. "There is nothing to prevent a further reasonable reduction of crude stock," he added. "Indications are there is enough for domestic purposes. I don't think there is need for reduction of more than 1½ to 2 million barrels a month, say. Part of that should be in California."

Replying to questions by Colonel Thompson, Dr. White said that to achieve a reasonable terminus of gasoline stocks a further reduction of 16,000,000 bbl. from the level of June 30 seemed

(Continued on Page 78)

REPORT OF ADVISORY COMMITTEE ON ECONOMICS ON PRINCIPLES AND STANDARDS FOR CRUDE OIL PRODUCTION

THE principal oil-producing states have deemed it advisable, in the interest of conservation, to regulate the production of crude oil, and this effort has met with the approval of an overwhelming proportion of crude oil producers, both large and small. In the evolution of the procedure under which this regulation has been brought about state conservation laws have been established and administrative bodies set up, with the result that there is now emerging a body of principles and standards which need to be clearly defined and codified to carry this movement to more effective application.

The Interstate Oil Compact Commission, instituted as an essential coordinating agency to unify the efforts of the individual states, has already recognized this need in a resolution passed at its last meeting in Austin, according to the terms of which it proposed "to develop and formulate from the regulatory systems in use principles and standards calculated to effectuate reserve conservation."

The advisory committee on economics has studied the progress of the conservation efforts of the various oil-producing states and out of the vastly complex series of rules and procedures has selected the following, which, tested in the light of engineering and economic knowledge, are set forth as embodying the fundamentals of the conservation movement which the commission is charged with furthering. These principles are simple and two in number:

1. That each pool shall be limited in output to its optimum rate; that is, shall be produced in such a manner that the ultimate oil recovery will be the maximum consistent with economic limitations.

2. That equity amongst competing interests be done by operating wells in such a manner that cross drainage is minimized.

The first principle involves engineering efficiency and has to do with the rate at which each pool is drawn upon. The standard is: No pool shall be produced at a rate in excess of that most conducive to the optimum recovery of the oil therefrom. The determination of such a standard for each oil reservoir and the establishment of rules for its application will in the aggregate insure effective and practical conservation. And the stability that will automatically follow from this procedure will serve to provide the commercial incentive.

The second principle has to do with the establishment of equity amongst operators. The standard is: The several properties in a single pool shall be so produced that the development of pressure differentials within the reservoir is minimized. In this way an engineering criterion may be established for the effectuation of valid ratable takings. As an interim approximation withdrawals may be made proportional to indicated reserves.

The application of these standards will leave each operator free to produce his oil with minimum capital expenditure, and thus the problem of well spacing will be automatically solved.

It follows that if the same standards are adopted by each regulatory body in respect to optimum rates of production and the preservation of the correlative rights of property, then price and other economic influences will be free to guide investment and development policies, while the objectives of conservation in the broadest sense will be fulfilled.

The matter of ascertaining and establishing such standards therefore becomes the prime objective of all interested in the evolution of the institution of proration to a socially and economically satisfactory goal.

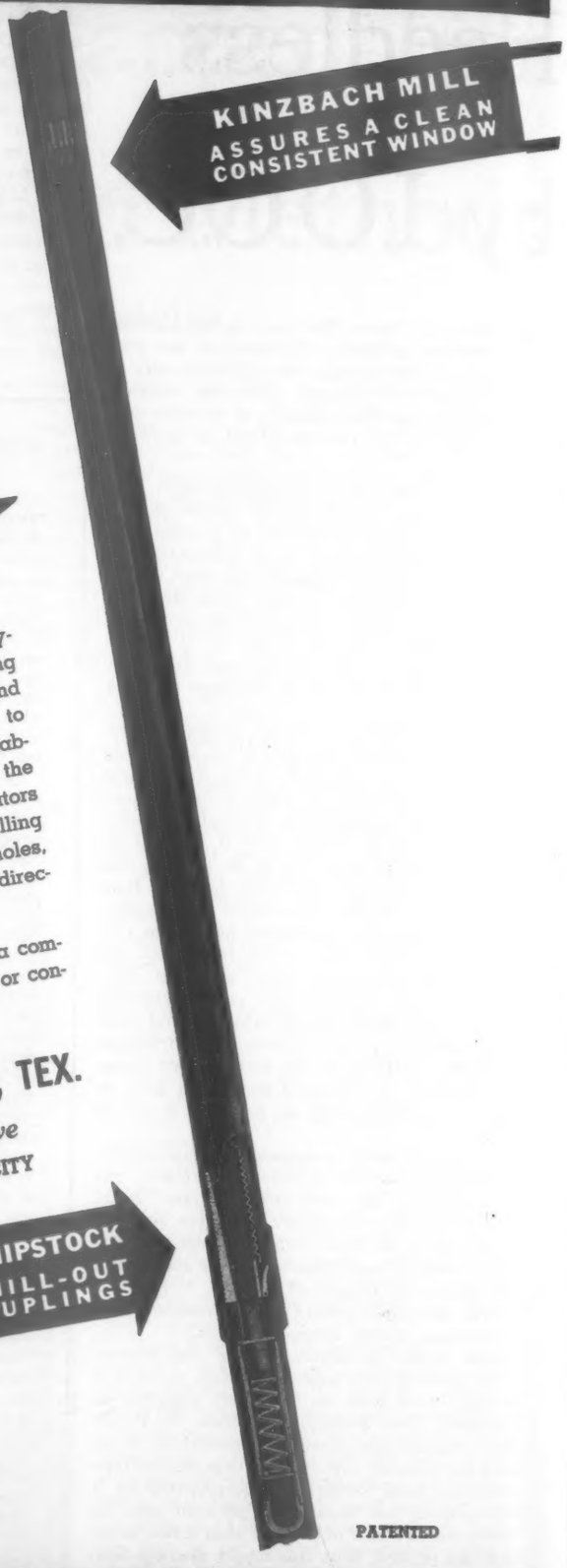
To this end the advisory committee on economics recommends:

a. That the Interstate Oil Compact Commission appoint a committee on proration practices composed as follows: From each compacting state one member each from the regulatory body and the state geological survey; from each noncompacting state, one member each from the state geological survey and the state university; this committee to be headed by the chairman of the Interstate Oil Compact Commission and be charged with the duty of studying the existing proration practices in each state and reporting thereon.

b. That the Interstate Oil Compact Commission appoint a committee on standards, composed of leading technicians, including engineers, economists, and experts in administration law; to be selected by the chairman of the Interstate Oil Compact Commission, with the aid of suggestions supplied by the American Petroleum Institute, the Independent Petroleum Association of America, the Petroleum Division of the American Institute of Mining and Metallurgical Engineers, and the American Association of Petroleum Geologists. This committee to be headed by a chairman of its own selection and charged with the duty of projecting and codifying the findings of the first committee and reporting thereon to the commission.

The reports of these committees will be of far-reaching value in furthering the development and application of proration along sound and constructive lines. One of the prime needs in the oil business today is the establishment of adequate production standards, based upon engineering criteria which will substitute well-formulated principles for the uncertainties of interpretation which in the past have inevitably brought pressure upon the regulatory bodies for exceptions and divergencies. Adoption of such technological principles would be of material assistance in formulating sound administrative law in conformance with the terms of the Constitution and conservation statute.

WHIPSTOCKS



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Busy Half-Year in Pipe-Line Construction to Continue

Pipe-line construction made a surprising comeback in the first half of 1939. Nearly 2,400 miles of trunk lines—oil, natural gas, and gasoline—were added to the country's network during the 6 months and as the second half opened other large projects were being announced, notably the project of Stanolind Pipe Line Co. for a line approximately 410 miles long from the Lance Creek field, through Wyoming and eastern Utah to Salt Lake City.

Another large undertaking was indicated by the proposal of Northern Natural Gas Co. to lay 240 miles of 16-in. transmission line from Sioux City, Iowa, to a point near Minneapolis, presumably designed to enlarge capacity to serve the Mesabi iron range to which Kansas Pipe Line & Gas Co. had planned to construct a $20,000,000 line from the Hugoton, Kansas, field.

Completion of the 100-mile Mene Grande oil line from Oficina to Guanta in eastern Venezuela, far ahead of contract date, was also reported.

Wood River-Lima Line

Illinois oil expansion was responsible for several projects. Socony-Vacuum Oil Co. announced a 360-mile 10-in. oil line from Wood River, Ill., to Lima, Ohio, with ramifications east and north. In Michigan extension of gas lines continued.

Standard Oil Co. of Indiana completed plans for laying a 180-mile 8-in. gasoline line from its refinery at Sugar Creek, Kansas City, Mo., to Council Bluffs, Iowa. Socony-Vacuum announced a plan to build a 6-in. gasoline line from Springfield, Mass., to Hartford, Conn., to be begun in the fall and to be completed this year.

In Canada talk of an oil line to either the Pacific Coast or the head of the Great Lakes, to provide an outlet for Alberta crude, continued to be considered both in the Dominion and in England where the value of Canadian oil in the event of war was being discussed.

Benedum & Trees of Pittsburgh, Pa., becoming interested in Turner Valley Development, was also reported contemplating a line to Bella Coola, B. C.

Illinois

Expansion of Illinois transportation facilities was indicated by the rise in production during 1938 and shortly after the first of the year Illinois Pipe Line Co. announced it would expand its system to help care for the more than 125,000 bbl. being produced daily from the new fields. The Illinois system was looped along a 185-mile front, 158 miles of the loop being 10-in. and 31 miles being 12-in. Operation of the new lines started shortly after the first of May and brought the capacity of this system to about 115,000 bbl. daily; its former capacity was about 85,000 bbl.

Socony-Vacuum Oil Co., Inc., announced on April 3 it would start construction of a 360-mile 10-in. line from Wood River, Ill., to Lima, Ohio, where the line would connect with existing facilities for shipment to refineries in New York and New Jersey. This line is more than half completed and Magnolia Petroleum Co., a Socony-Vacuum subsidiary, is shipping west through the line with part of the crude going to its Lubrite plant at East St. Louis and some being reshipped to the Wadhams division plant at East Chicago.

Texas Co., through the Central States Pipe Line Co., installed an 8-in. line from Salem to Lawrenceville, Ill., late last year; crude was shipped through the Texas-Empire line from Lawrenceville to Hayworth where it joined the main 12-in. line into the Chicago district. Due to the rapid rise in Salem production, this line was able to take care of only part of Texas' requirements and that company announced early in June it would build a 10-in. line from Salem to Hayworth, Ill. Construction of this line will provide an outlet for about 50,000 bbl., providing it has sufficient stations along the line to keep the pressure near the maximum.

Sohio Corp., Standard of Ohio subsidiary, has long been the major purchaser of independently produced crude in the state. It also takes the runs of major companies in isolated fields; however, it owned only gathering systems and short lines to the Illinois Pipe Line Co. system. On June 12 Sohio Corp. announced it was purchasing the old Tide Water Associated Oil Co. 6-in. line from Stoy, Ill., to the first station beyond the Pennsylvania line. It also announced that it was purchasing right of way for a 10-in. line from Noble to Stoy.

The crude line situation in Illinois has been a struggle to keep pipe-line capacity abreast of the production of the area without expanding unnecessarily to the point where the operators would eventually find themselves with more pipe lines than they could fill. At the same time, the mounting production forced the building of lines if large quantities of oil were not to be stored in the basin fields.

Two other major developments in Illinois did not affect the crude situation but did provide important links in the marketing facilities of two major companies. One was the conversion of the old Shell Pipe Line Co. crude line from Wood River to Chicago to a gasoline line; the second was the start of construction on the Iliana Pipe Line Co. new 8-in. gasoline line from East St. Louis to Chicago. This adds about 40,000 bbl. of gasoline that can be delivered daily into the Chicago district.

Total mileage of new crude and gasoline lines, in addition to the Illinois Pipe Line Co. loops, is 762 miles; the total outlay for main line facilities will total more than $16,000,000. Nearly all of the new construction is scheduled for completion about September 1 and at that time the pipe line capacity out of the basin fields will be approximately equal to the production. Further increase in amount of crude taken from the basin fields will require more construction.

Rocky Mountain Area

The only oil pipe-line construction reported in the northern Rocky Mountain area, outside of gathering lines in producing fields, was the laying of a 20-mile 4-in. welded line by Socony-Vacuum Oil Co. from the White Eagle refinery in East Casper, Wyoming, to the Big Muddy field. It was completed and put into operation in June. The line connects with the Continental Oil Co. gathering system in the Big Muddy. It was constructed to transport crude from the Continental wells to the White Eagle refinery. This crude previously had been run to the Continental refinery at Glenrock and is being replaced with Lance Creek crude. The oil from Lance Creek is transported through a 65-mile 4-in. line built last year from the Lance Creek pump station to Glenrock by Continental Oil Co.

There was comparatively little gas pipe-line construction in the northern Rocky Mountain area. Rocky Mountain Gas Co., an affiliate of Ohio Oil Co., replaced with 8-in. pipe an 11-mile 6-in. line in the James Lake area in Carbon County, Wyoming, to complete an 8-in. line from Laramie to Kyle junction. The line transports gas from the Carbon County fields to Laramie. The 6-in. line taken up will be used to build a connection between the main line and the Oil Springs field where there were several gas wells completed late last year for which the company has contracted the output.

Billings Gas Co. is replacing 8 miles of its Elk Basin-Billings 8-in. line with 12-in. pipe. S. D. Bechtel Co. has the contract which will represent a total investment of approximately $90,000.

Two gas lines are projected in Montana to furnish an outlet for the new gas field in North Cut Bank. Both are in the tentative stage. Spokane Pipe Line Co. was incorporated in June by A. B. Cobb, E. B. Coolidge, La Rue Smith, and others, to build a 300-mile line from North Cut Bank to Spokane, Wash., and taking in mining districts and towns in Idaho. No date has been set for starting work.

Huber-Montana Co., a subsidiary of J. M. Huber Corp. which recently acquired gas properties in North Cut Bank, is making a bid for supplying Great Falls with natural gas. Walter David, president of the company, recently appeared before the Great Falls city council and stated it was prepared to expend $1,000,000 in building a line to the city to supply gas at a lower cost than it is now paying. The city is now supplied by Montana-Dakota Utilities Co., the distributor being Great Falls Gas Co. The proposal is for the city to buy and operate the distributing system. No action has been taken by the city.

Gulf Coast and Southwest Texas

Corpus-Rosa Pipe Line Co. completed a 32-mile 6-in. welded oil line from the La Rosa field in Refugio County to the Terminal Refining Co. at Corpus Christi. Two short 4-in. lines was extended from the main line to Houston Oil Co. tank farm at Refugio and to the Mellon Creek field in Refugio County.

Humble Pipe Line Co. completed 50 miles of 8-in. oil line from its Benavides station in Duval County to the Kelsey field in southeastern Jim Hogg and southwestern Brooks County.

Cordelle Pipe Line Co. laid 8 miles of 4-in. oil line from the Cordelle field in Jackson County to a loading rack just east of the town of Edna.

Phillips Petroleum Co. completed a 4-mile 6-in. welded oil line from the League City field in Galveston County to Pan American Pipe Line Co.'s main line east of the field which extends to Texas City. The same company laid a 6-mile 4-inch gas line from the Dickinson field to League City which supplies fuel to the drilling rigs.

Corpus Christi Corp. completed 30 miles of 4-in. welded distillate line from the Agua Dulce field in Nueces County to Corpus Christi.

Houston Oil Co. provided the Spanish Camp gas field with its first outlet by laying 12 miles of 4-in. from the field to the company's main line between Hungerford and Wharton in Wharton County.

Sid Richardson completed 4 miles of 6-in. oil line from the Eola field, Avoyelles Parish, Coastal Louisiana to Standard Oil Co. of Louisiana main line at Bunkie.

Texas-New Mexico Pipe Line Co. installed a 10-mile gathering system in the Kermit field, Winkler County.

United Gas Pipe Line Co. laid 3 miles of 8-in., 18

(Continued on Page 164)

STATE CAPITALS

TEXAS

A REVISED SPACING RULE in the East Texas field announced July 24 by the Railroad Commission may be the answer to companies petitioning for higher allowables under the Rowan & Nichols case. The order amending Rule 37 as applied to East Texas (based on statutory authority under Act 6049, Revised Statutes) provides that the commission may, upon its own order, issue a permit for drilling a well closer than 660 ft. from another well and nearer than 330 ft. to lease lines. Thus, when a company asks that its allowable be adjusted to conform to its well density, as many have done under the terms of the Rowan & Nichols suit, the commission has the authority to grant (by its own motion) sufficient permits for wells for the operator to increase his well density to a point where he is not subjected to drainage.

Heretofore drilling permits in exception to Rule 37 have been at the request of the owner of the lease on which the well was to be drilled, so that the commission's move was generally regarded as a counter-attack upon petitioners for higher allowables. Decision of the Rowan & Nichols suit against the commission's method of allocating production in the East Texas field, adjusting the allowable in accordance with the acreage drained by the company's wells, resulted in several petitions being filed using the Rowan & Nichols decision as a basis. Thus the commission's latest move, in effect, says that if the petitioners want their production raised the remedy is to drill more wells—increase the well density on their leases to that of the offsetting leases which allegedly are subjecting their leases to drainage.

In issuing the revision Chairman Smith, in part, stated: "In adopting the amendment to Rule 37, we have simply put into the rule the plain provisions of the statute. The commission believes that the action taken will go a long way toward solving the many perplexing problems that have arisen in the East Texas field, and by so doing will have the effect of adjusting many claimed inequities. This, of course, has always been the commission's aim and purpose, and will continue to be my aim and purpose as long as I am in a position to serve my state and its citizens."

An added paragraph was the only change in the amended Rule 37, the paragraph reading:

"Provided further that the Railroad Commission of Texas, in order to prevent waste or prevent the confiscation of property, may upon its own motion or order, issue or grant a permit or permits for the drilling of any well or wells for oil or gas nearer than 660 ft. from any other completed or drilling wells on the same or adjacent tract or farm, and nearer than 330 ft. to any property line, lease line or subdivision line as herein before prescribed, whenever the commission shall determine that the drilling of any such well or wells is necessary to prevent waste or prevent the confiscation of property. When in the opinion or judgment of the commission waste or confiscation of property is reasonably imminent or is taking place on any leasehold, the commission may, on its own initiative or motion, order a hearing for the purpose of determining whether such waste or confiscation of property is taking place. Such permit or permits shall be issued or granted only after at least 10 days' notice to owners of said leasehold and to all adjacent lessees affected thereby has been given, and after public hearing at which all interested parties may appear and be heard, and after the commission has determined that the drilling of any well or wells for oil or gas is necessary either to prevent waste or to protect the owners of said leasehold from confiscation."

SUIT ATTACKING VALIDITY OF PRORATION in the East Texas field was filed by Sun Oil Co. in the federal District Court at Austin last week, using the federal court decision in the Rowan & Nichols case as a base but attacking from a slightly different angle. The Sun company alleged the commission had granted permits to G. E. Burford to drill four wells on an offsetting 2.33-acre tract to its Gregg County holdings and asked revocation of the permits as exceptions. It asserted the method to adjust differences in drainage would be to revise allowables, as ordered in the Rowan & Nichols case.

ANOTHER SUIT was filed by Selby Oil & Gas Co. and Lewis Production Co. jointly, asking the commission to set aside a permit granted to Hastings & Dodson to drill a second well on a 3.85-acre tract offsetting them in Rusk County. Stating, in substance, what Judge McMillan ruled in the Rowan & Nichols case, the petition read, "If any disparity exists in density, the appropriate and legal method of adjusting is by adjusting the allowables and not by granting wells."

NEXT STATEWIDE PRORATION HEARING will be held on September 18 in Austin, Railroad Commission Chairman Lon Smith announced. The announcement was made this far in advance, he said, in order to quiet rumors that the commission plans a revision of its existing oil proration order as a result of the court attacks upon it; i.e., upholding of the Rowan & Nichols suit and more recently the filing of additional petitions based on the Rowan & Nichols suit by Sun Oil Co. and others.

The present order is effective until October 1 and the legal attack makes it imperative for the commission to continue the order in effect until an appeal from the adverse federal court decision is passed upon by the federal Circuit Court, Chairman Smith said. His statement that he favored issuing another 3-month order after the September hearing, "as 3-month orders have a very stabilizing effect," was generally regarded as being significant of the commission's policy during coming months.

WILLIAM G. RANKIN, whose resignation as state conservation commissioner of Louisiana was ordered by Gov. Earl K. Long, succeeded Robert S. Maestri who resigned the commissionership to become mayor of New Orleans following the death of Huey Long.

THE RAILROAD COMMISSION last week announced an order rescinding the special East Texas tank-bottom regulations, which differed from the statewide regulations in that only "merchantable" oil recovered from tank bottoms could be charged back against allowables. The special East Texas order had been issued October 29, 1937, amending the statewide order on June 28, 1934, after the commission had been enjoined from making certain chargebacks. According to Dr. Patten, commission engineer, the lawsuit was dropped after the 1937 order was entered. Rescinding of the order placed East Texas again under the statewide rule requiring chargebacks.

THE LEGISLATIVE COMMITTEE, authorized to study water pollution problems in Texas, preliminary to revising state laws governing pollution, at a meeting last week called a general meeting for August 2-3 at Austin. Discussions will be held in three section groups and oil industry representatives have been asked to attend to present their problems.

CALIFORNIA

GOV. CULBERT OLSON July 22 signed the Atkinson oil control bill, establishing a three-man conservation commission to regulate production in the industry. The bill increases the salary of the director of natural resources from $6,000 to $10,000 because of additional duties imposed in administration of the act. The natural resources head, the director of finance and director of public works comprise the control commission.

John A. Smith, president of the Independent and Consumers Association, announced referendum petitions for repeal of the legislative measure would be placed in circulation next week.

THE CENTRAL COMMITTEE of California Oil Producers, official curtailment group, set the allowable crude-oil production for August at 598,300 bbl. daily which is 3,025 bbl. above the July allowable of 595,275 bbl. The Bureau of Mines estimated the California demand as 595,200 bbl. for July and 595,100 bbl. per day for August so the two agencies are in accord. After setting the August allowable the Central Committee reduced the top maximum from 250 bbl. per day to 240 bbl. daily so that wells which produced at the former rate during July will be obliged to make an additional 10 bbl. per day curtailment.

MICHIGAN

AN EMERGENCY PRORATION ORDER, setting production quotas for oil wells in the New Salem and Wyoming fields, was issued July 21 by the State Conservation Commission. Secretary Wayland Osgood explained that expansion of the two pools since the July 1 quotas were issued by the commission made the emergency order necessary to eliminate overproduction.

The new restrictions extend to the Wyoming pool the limitations set for the adjacent Walker pool and also apply to the new Tallmadge Township development in Ottawa County. The change in the New Salem field places James Township, Ottawa County, under the Salem restrictions. All wells in these areas are allowed 200 bbl. daily from each 10-acre drilling tract.

ARKANSAS

A HEARING by the Arkansas Oil and Gas Commission will be held July 27 in El Dorado to determine whether waste of oil or gas is taking place or is reasonably imminent in any field and specifically from the owners, producers, and purchasers of oil and gas in the Atlanta, Buckner, Lewisville, Magnolia, Schuler and Village fields or pools on the ratable outlet from each pool for August and September. Also whether the present method of allocating the daily production should be changed. The present method is by multiplying the acreage containing the well by the bottom-hole pressure and that product (acre-pounds) by a factor derived by dividing the total daily allowable by the sum of all the acre-pounds in the field or pool.

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The Way Out

There were four distinct developments of vital interest to the oil industry during the week.

Illinois continued its wide-open production methods calling upon the industry to absorb an output of 281,650 bbl. a day.

In Louisiana, the new governor was trying to unravel the puzzle of oil regulation and politics.

At Santa Fe, the report of the advisory committee on economics laid before the Interstate Oil Compact Commission a general plan of action for future conservation.

And, finally, the administration at Washington is preparing to make a definite recommendation to Congress which undoubtedly will provide for an extension of federal control over the oil business.

To some these may appear to be widely scattered and disconnected developments. Actually they are very closely interrelated as to causes and effects having to do with the present state of the industry.

That Washington will attempt to fasten its grip on the oil industry has been the goal of the administration for sometime, and the happenings in Illinois and Louisiana will unquestionably give it the needed pretext.

At the same time the Interstate Compact committee's recommendation at Santa Fe points a way out to the industry, provided the oil states and the industry itself do what obviously needs to be done.

There is nothing especially new in the committee's report which is commendable for its brevity and clarity. While some may disagree with the recommended procedure, they cannot question the two simple fundamental principles laid down.

"That each pool shall be limited in output to the optimum rate; that is, shall be produced in such a manner that the ultimate oil recovery will be the maximum consistent with economic limitations.

"That equity amongst competing interests be done in operating wells in such a manner that cross drainage is minimized."

In brief, they say oil must be produced everywhere on a basic of sound engineering and conservation practices and that those practices must be so applied that each operator obtains the oil to which he is justly entitled and no more.

The individual oil states, both within and outside the compact, are on record against any extension of federal control. Undoubtedly at this time the great majority of the industry supports them in this position.

But it is equally apparent that what has been done so far has not been sufficient to give the industry the profit and stability to which it is entitled.

While most of the blame has been directed towards Illinois and Louisiana and other states which have operated with little regard for conservation requirements, much remains to be done within states which have been most active in the compact and which have something to show for their efforts.

The oil states need to follow quickly in line to the end as the committee explains "If the same standards are adopted by each regulatory body in respect to optimum rates of production and preservation of correlative rights of property, then price and other economic influences will be free to guide investment and development properties, while the objectives of conservation in the broadest sense will be fulfilled."

The committee's report is not to be considered by the compact commission until its next meeting. This is no time to delay action on the part of the control bodies of the oil states. The time may not be far distant when they will be called upon to give an account of their stewardship, both to Washington and to the industry.

August Domestic Gasoline Demand 5 Per Cent Above 1938

The daily average supply of domestic crude oil estimated by the Bureau of Mines to meet the market demand in August 1939 is 3,521,900 bbl. This is 8,700 bbl. more than the estimate for July and 19,200 bbl. or about ½ per cent more than was the actual demand for August 1938. The estimated runs to stills of 104,080,000 bbl. is 2,728,000 bbl. higher than for August 1938, but almost one-half of this difference represents an estimate for increased foreign runs.

Daily average crude-oil production and runs to stills during the 4 weeks June 3 to July 1 were 3,453,000 and 3,476,000 bbl., respectively. During this period total crude-oil stocks declined 6,511,000 bbl., 374,000 bbl. of which was foreign stocks, leaving a net decline in domestic crudes of 6,137,000 bbl., or 219,000 bbl. daily. The addition of this stock decline to the production indicates that the apparent demand for domestic crude oil during June was 3,672,000 bbl. daily, or 181,000 bbl. in excess of the bureau's estimate.

Indicated total runs for June were 158,000 bbl. daily above the bureau's forecast. The indicated reduction in finished and unfinished gasoline stocks for June 1939 amounted to only 2,680,000 bbl. compared with 7,616,000 bbl. in June 1938.

ESTIMATED DAILY AVERAGE CRUDE-OIL DEMAND BY STATES (barrels)

(As no changes in crude-oil stocks are involved in these estimates, they represent demand rather than production)

State—	Forecast August 1939	Forecast July 1939	Actual demand Aug. 1939
Texas	1,428,100	1,426,500	1,423,000
California	595,100	595,200	660,000
Oklahoma	448,100	456,100	545,000
Louisiana	259,300	264,500	253,000
Illinois	201,900	187,400	65,000
Kansas	168,700	160,300	161,000
New Mexico	111,000	116,100	92,000
Wyoming	77,100	73,200	79,000
Michigan	54,200	53,200	51,000
Pennsylvania	52,900	50,800	47,000
Arkansas	51,900	53,900	54,000
Montana	16,400	16,100	15,000
New York	16,000	15,400	13,000
Kentucky	15,000	15,900	18,000
West Virginia	11,000	10,700	9,000
Ohio	8,400	10,500	11,000
Colorado	3,900	4,800	4,000
Indiana	2,900	2,600	3,000
Total	3,521,900	3,513,200	3,503,000

Motor fuel: Domestic demand—The estimated domestic demand for motor fuel is 52,900,000 bbl. or 5 per cent more than the actual demand in August 1938.

Exports—Motor-fuel exports have been estimated as 4,200,000 bbl., the same as for July but 629,000 bbl. lower than the actual exports in August 1938.

Stocks—Stocks of finished and unfinished gasoline on May 31 were 84,200,000 bbl. Statistics of the American Petroleum Institute indicate that they declined about 2,680,000 bbl. during June, which would bring them to approximately 81,500,000 bbl. on June 30. As indicated above, excessive crude runs to stills have prevented stocks from being reduced at the normal seasonal rate in spite of a record demand. If the industry is to avoid entering the winter season of light demand with excessive stocks, a drastic reduction in runs is indicated for the coming weeks. The bureau estimates a minimum reduction in gasoline stocks of 6,200,000 bbl. during August.

Gasoline production—Benzol and direct sales of natural gasoline have been estimated as 900,000 bbl., making refinery production 50,000,000 bbl. This is distributed among the various districts as follows (thousands of barrels): East Coast, 6,560; Appalachian, 1,790; Indiana-Illinois, 8,870; Oklahoma, 2,970; Kansas-Missouri, 2,570; Inland Texas, 3,670; Texas Gulf Coast, 13,250; Louisiana Gulf Coast, 1,550; Inland Louisiana-Arkansas, 930; Rocky Mountain, 1,260; California, 6,480.

Crude petroleum: Runs to stills—Natural gasoline to be blended at the refineries is estimated as 6.5 per cent of the total gasoline production, or 3,250,000 bbl. The yield of straightrun and cracked gasoline is estimated as 44.9 per cent. The application of this yield to the production of 46,750,000 bbl. gives crude runs of 104,080,000 bbl., or 3,357,400 bbl. daily. The estimate for foreign crude runs has been raised to 3,500,000 bbl.

Exports, fuel, and losses—Exports of crude oil are estimated as 7,000,000 bbl., or 600,000 more than the July estimate. The estimate for fuel and losses is 1,600,000 bbl.

Total demand—The total demand for domestic crude oil in August 1939, as indicated by the estimates above, is 109,180,000 bbl., or 3,521,900 bbl. daily.

Crude-oil demand by states—The breakdown of the total estimated daily demand for domestic crude oil of 3,521,900 bbl. gives the following crude requirements by states of origin. As these requirements may be supplied either from stocks or from new production, contemplated withdrawals from crude-oil stocks must be deducted from the bureau's estimate of demand to determine the amount of new crude required. These estimates are not recommendations for production but represent the projection of actual market trends by states.

Attorneys and Accountants Working on Danville Case

DANVILLE, Ill., July 24.—A crew of accountants and assistant attorney generals has been working the past 2 weeks on huge stacks of documentary evidence submitted to the federal grand jury investigating alleged gasoline price fixing in 10 midwestern states.

This evidence consists of records of more than a dozen major oil companies since 1930. The special crew has been working under direction of Nelson Sharfman, right-hand man of John Henry Lewin, special U. S. attorney general in charge of the prosecution.

There is no indication at present as to how soon the task might be completed. It is indicated that if the grand jury is not reconvened sometime this fall it might not be recalled before early in 1940.

When the grand jurors were excused by federal Judge Walter C. Lindley, June 23, after 3 weeks' session, Judge Lindley extended the term for which this grand jury was first called until next March. The jurors were originally convened for the March term of court in 1939. The extension continues their operations until next March if necessary.

Strictest secrecy has been maintained by the special staff of assistant attorney generals during the grand jury investigation. During the time the jury was in session the time was spent taking oral testimony. It is indicated that when the grand jury is reconvened no indictments will be returned immediately in order that the documentary evidence compiled by the special staff can be presented.

Roy M. Johnson Exposes Borah Divorcement Bill

Roy M. Johnson, independent operator, Ardmore, Okla., addressed a meeting of oil and civic leaders in Tulsa last week, speaking as an officer of the Oklahoma Stripper Well Owners Association and the Independent Petroleum Association of America. Referring to Senator Borah's bill for divorcement of pipe lines he said:

"Were the provisions of the Borah bill today in effect, we would have one flush field competing against the other, and seeking an outlet for their wells. It would be truly a buyers' market. Field would bid against field, until the price would drop even to as low as 25 cents a barrel or under, and long before this point was reached all the stripper wells would have been forced to cease operation, with the resultant tragic loss of billions of barrels of recoverable oil. On the other hand, in periods of petroleum scarcity unintegrated pipe lines and refineries, facing a diminishing supply, would, in order to protect their investments, bid against other purchasers, and a seller's market would follow with resulting inordinately high crude prices. Thus we would continually face either a feast or a famine, with resulting disturbance to the petroleum-consuming public.

"Suppose the Borah bill were put into force today, who would put up the billion dollars now invested in hundreds of pipe lines serving the industry? All this would take time. What would meanwhile become of the production of the nation's oil fields? The majority of stripper fields are now served by pipe lines so much larger than the oil being transported would justify, that interest on the pipe line investment is not even being earned. Where would the capital be found to serve these patriarchs of oildom with their thousands and thousands of wells?

"Under the uncertainties and hazards that would follow enactment of the Borah bill, no sane banker or capitalist would think of lending money to any producer. Instead, there would be a mad scramble to collect on all outstanding oil loans.

"Yet another great reason exists why pipe lines should not be divorced from their affiliant market outlets: The chief incentive of the wildcatter would be gone. Today, he knows if he opens up a field, that within a reasonable time a pipe line will come to him. For these great major companies are continually hunting for additional sources of supply, realizing that the fields with which they are already connected slowly but surely exhaust themselves.

"However, under the proposed new plan, and in the face of the great capital losses that unintegrated pipe lines have undergone in the past, no capital would be available to lay new pipe lines costing millions of dollars to a new field, until those furnishing the necessary capital were assured by their engineers that the extent, probable life and ultimate production of the new area would justify such capital expenditure. How many of us wildcatters would have, or could get, money for the number of wells necessary to determine the extent of a new strike?"

South Penn Ends Purchase Of Buckeye Crude Oil

PITTSBURGH, Pa., July 24.—In a notice to producers of Pennsylvania Grade crude oil run in the lines of Buckeye Pipe Line Co. in Southeast Ohio, South Penn Oil Co. announced that it was withdrawing from the market. On and after August 1, the Joseph Seep Purchasing Agency of that company will discontinue posting of a price for credit balances of Buckeye Pennsylvania Grade crude oil and as of the close of business July 31 will discontinue purchase of those credit balances and all standing purchase orders will be cancelled.

This move is due to a greatly decreased refinery demand for that grade of crude oil on the part of regular customers which earlier had forced a curtailment of 50 per cent of the normal purchases. No announcement has been made as to how the market for this grade of crude will be maintained but it is known Quaker State Oil Refining Corp. at St. Marys, W. Va., and Emlenton, Pa., has been using considerable of this oil and purchasing it directly from the producers.

New Gasoline Plant to Be Built in Magnolia Field

ST. LOUIS, Mo.—Shell Oil Co, Inc., Atlantic Refining Co., and the Petroleum Finance Corp. will build immediately a jointly-owned natural gasoline extraction plant in the Magnolia field of Columbia County, Arkansas. The announcement was made by Alexander Fraser, Shell president. Intake capacity of the plant will be 15,000,000 cu. ft. of gas daily, which it is estimated will adequately take care of the field's gas production. It is estimated daily production will be 50,000 gal. Loading lines will be laid to, and loading rack facilities maintained at, the town of Magnolia. Plant site has already been selected and engineering parties are now running surveys for plant and pipe line facilities. The plant is expected to commence operating by the end of November. Construction and operation will be in the hands of Shell.

This plant is the second gasoline extraction plant announced for construction this year by the Shell organization; the first—in the Wasson field of West Texas—being already under construction. As in the case of Wasson, this plant will embody the most recent developments in scientific research and engineering design evolved by the technologists of the industry.

New Bill for Control of Oil Is Approved by President

By HENRY D. RALPH

WASHINGTON, D. C., July 25.—Legislation to place the federal Government in control of oil production in the interest of conservation has been endorsed by President Roosevelt and is expected to be introduced in Congress within a few days.

In a letter to Chairman Lea, of the House committee on interstate and foreign commerce, the president said:

"On February 15, 1939, I transmitted to the Congress a report on energy resources by the national resources committee wherein certain recommendations were made relative to oil and gas problems in the United States.

"I believe that it is consistent with these recommendations to invite the attention of your committee to the desirability of the early enactment of legislation which will provide a coordinated national policy in oil conservation. To my mind the legislation should be designed to prevent avoidable waste in the production of oil and gas in the United States.

"As you know, despite the progress which has been made toward oil conservation under state law and regulation the production of petroleum is attended by waste. In view of the vital part which petroleum plays in the national defense as well as its importance in commerce and industry, the prevention of waste in petroleum should be the subject of an enactment by the Congress.

"I appreciate the thoroughness with which the committee on interstate and foreign commerce conducted the petroleum investigation in 1934 in response to H.R. 441; but in the light of changes that have taken place I believe the committee may wish to study developments since that time by investigation and hearings prior to the next session of the Congress. To this end, and with a view to legislation in the next session, I request that the petroleum conservation bill which I today discussed with you and Representative Cole be introduced at this session."

Government officials in position to know said the bill is not as drastic or revolutionary as some in the oil industry might have expected and while they would not discuss it prior to actual introduction they admitted it is a fair assumption the bill follows generally the pattern of measures for federal control of oil production proposed during the past 6 or 8 years. The general opinion was that the bill will be based upon the recommendations of the energy resources survey made by the National Resources Committee and sent to Congress February 16, this year (The Oil and Gas Journal, February 23, 1939, p. 38).

AT that time the president did not recommend any specific legislation but endorsed the general findings of the committee which, in brief, recommended that federal control extend only to the establishment of minimum standards for production designed to prevent waste and encourage conservation and to protect interstate and foreign commerce from the burden of oil produced in violation of such standards. It proposed creaiton of a federal agency with authority to require that oil and gas be extracted by such methods as are adequate to avoid waste and protect the interest of all producers drawing from a common reservoir, but stated this could be done through cooperation with the states and that such action need not be a departure from the present system of state conservation laws backed by the Connally Act prohibiting interstate transportation of illegally produced oil.

This is not the first time President Roosevelt has sought legislation for federal control of the oil industry, since he has specifically endorsed various proposals, although he has made no such move recently. It has long been known that Secretary Ickes is interested in legislation giving the federal Government jurisdiction over petroleum but it is not known just what caused the president to send the proposal to Congress at this time. It is surmised the decision was based on a number of recent developments, including current disclosures that the conservation law of Louisiana may have been of political advantage rather than strictly in the interests of conservation; the failure of several states, notably Illinois, to enact conservation statutes, and a general dissatisfaction in Washington with the failure of the interstate compact to bring about the degree of conservation promised. It may be more than a coincidence that the proposal was held in abeyance until after Congress enacted legislation continuing the Connally Hot Oil Act.

THE energy report of the National Resources Committee strongly recommended state legislation for more rigorous conservation, coordinated with a proposed federal law, and also state laws to terminate the law of capture as applied to petroleum and substitute the law of ownership in place and require unit operation of all oil pools. The report, however, did not indicate how the federal Government could go about enforcing the adoption of such state legislation and it is not known whether the Cole bill will include this subject. If the bill follows the recommendation of the resources committee it probably will propose the creation of a federal agency with authority to fix methods of production to avoid waste and to allot production quotas to the states to prevent wasteful overproduction, probably with provisions for state cooperation in fixing these standards and quotas. While the resources committee did not so recommend, proposals have been made in earlier bills that the federal Government be given power to allot quotas to fields and wells within a state which has no proration law or which is not enforcing its law in accordance with federal standards.

Federal control of oil production has been a lively topic of discussion ever since the winter of 1932-33, when the industry was in a state of demoralization because of overproduction. In March of 1933, shortly after President Roosevelt took office, a conference of representatives of governors of 17 oil-producing states was held in Washington at the invitation of Secretary Ickes, with Gov. Alf Landon of Kansas as chairman. In opening this conference, Secretary Ickes hinted that if the states did not succeed in accomplishing conservation there would be a general public demand for federal control. This governors' conference recommended, among other things, rigid and coordinated state and federal control of petroleum production and suggested that the president appoint a personal representative, referred to in headlines of that day as an "oil czar," to cooperate with the states in bringing about conservation. The conference also recommended that the president call on the principal states to close all flush pools, that imports be prohibited, that interstate transportation of hot oil be prohibited, and that federal steps be taken to end oil bootlegging and the evasion of state and federal taxes on the production, transportation and sale of peroleum and its products.

PRESIDENT ROOSEVELT, however, on April 3 left the matter of conservation up to the states by declining to act on most of the recommendations of the governors' conference, although he did endorse recommendations to prevent tax evasions and illegal transportation and also added a recommendation for federal legislation to divorce oil pipe lines from ownership from producing, refining and marketing companies. This did not stop the demands for federal control, however, and shortly thereafter Senator Arthur Capper of Kansas introduced a bill to prevent interstate shipment of hot oil and authorizing the secretary of the interior to investigate the oil industry and prepare demand forecasts and to recommend to oil-producing states production quotas and uniform conservation laws. On May 20, 1933, President Roosevelt sent a special message to Congress declaring: "A serious situation confronts the oil-producing industry. . . . It seems difficult, if not impossible, to bring order out of chaos only by state action. . . . There is a widespread demand for federal legislation." On the same day Representative E. W. Marland of Oklahoma introduced a bill somewhat similar in nature to the Capper bill and directing the secretary of the interior to act as an umpire between oil-producing states, to allocate production quotas and if necessary to establish production allowables within a state.

During the N.R.A. period, which ran from June 16, 1933, to May 27, 1935, the entire oil industry was under the most detailed federal control, but even the existence of the oil code did not stop the demand for special legislation. During the spring of 1934 committees of Congress held hearings on somewhat similar bills introduced by Senator Elmer Thomas, and Representative Wesley E. Disney of Oklahoma. This bill, which was often referred to as the Margold bill because of the belief that it had been written by Nathan R. Margold, solicitor of the Department of the Interior, would have authorized the secretary of the interior to proscribe quotas of petroleum to move in interstate commerce and also to give the secretary authority to regulate withdrawals of crude

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GOVERNOR LONG

(Continued from Page 64)

fairs of the state administration continues, with additional exposures being made of alleged widespread irregularities and unethical practices involving numerous prominent public officials and business and professional leaders in the handling of state and public affairs. So far scandals brought out have centered largely around dealings involving Louisiana State University, although several other state activities have been under fire. To what extent these exposures will go, and whether administration of oil affairs is involved, is a subject of much speculation by oil men.

The Department of Conservation again was brought in the past week with public charges by A. P. Tugwell, state treasurer, that certain Louisiana firms dealing in oil well supplies, tanks and other equipment were compelled to bill their sales to operators through a Houston, Tex., supply company and allow that company a discount of 10 per cent on such sales and deliveries although that company might do nothing more than bill the equipment. In his charges he stated that the agent for the company in Louisiana was state Representative C. A. Morvant of Thibodaux, chief attorney for the Department of Conservation. Mr. Morvant, whose resignation as chief attorney for the Conservation Department since has been announced, denied that any one had been compelled to buy anything from the company named, or that any 10 per cent discount had been allowed.

The Department of Conservation first came under fire when more than $75,000 of appropriated funds paid by the department on the cost of the new geology hall at the state university was reported missing, but following a conference with the governor late last week, Mr. Rankin, head of the department, issued a statement giving a complete accounting of the missing funds and authorized issuance of a check covering the amount.

One of the principal phases of the federal investigations is on shipments of oil out of the state, involving alleged violations of the Connally Act. Rumors have been current for some time that considerable volumes of hot oil have been moved out of coastal Louisiana. The rumors have named certain major producers as well as several prominent independent operators as having been involved. Louisiana oil men openly state it never will be known just how much oil has been run from some coastal Louisiana fields.

Rumors that in many instances "dead wells" are being carried on production and allowable reports, that special concessions in higher allowables are sometimes granted for some operators and that various other irregularities in production practices exist also are freely circulated.

Welcoming federal investigation into the oil activities in the state, Governor Long states he is ready to cooperate in any way, and that if any irregularities are found he will do everything within his power to correct such conditions regardless of who is involved.

Although the industry in other states continues to look with apprehension on coastal Louisiana's mounting daily production, there is a growing feeling within Louisiana that that district does not constitute the threat to market stability assigned to it, especially in view of expressions from Governor Long that so far as his administration is concerned every effort will be made to keep production in line. There are many, though, that question the governor on this point, considering that he expects to be a candidate for his present office at the coming election and may not want to go too far in antagonizing the administration forces.

At present there are no individual fields in coastal Louisiana that offer any particular threat of excessive production. Several weeks ago it was thought sizable production might be developed at Eola, Avoyelles Parish, but it now appears development will be fairly well controlled, although the field does constitute a major reserve. Eola, for the present, is hampered by lack of an adequate outlet, it being reported Standard Oil Co. of Louisiana, which has been taking the oil, does not desire a great quantity of it. Golden Meadows, which has loomed as a coming sore spot, is meeting further reverses and it is problematical now whether it will live up to earlier expectations.

On top of that a number of fields, which until comparatively recently were regarded as capable of prolonged prolific production, apparently have reached their peaks. In several, sands are beginning to feel the effects of drainage and of rapid water encroachment, and oil production is definitely on the downgrade. Such fields as New Iberia and Jennings, where recent active drilling plays resulted in building up of production, and which have been responsible for running up total production, are not to be encountered every day. The latter fields now are among those definitely on the decline. Slipping production in such fields will offset to some extent the rising production of developing fields.

Thus, although daily production of the district has been climbing to successively higher peaks each week, and while more drilling is going on than at any time in years, signs, as viewed by Louisiana operators themselves, point to an early leveling off, which with cooperation of the state administration may serve to remove the district as a serious handicap to greater stability in general conditions.

Evansville Refining Co. Starts Operating New Indiana Plant

Southern Indiana's first oil refinery, the 3,000-bbl. plant of Evansville Refining Co., Inc., at Evansville, is expected to start operations late this month. P. H. Hertzog, formerly with Premier Refining Co., and Overton Refining Co. in the East Texas field, and also recently active in pipe line operations in southern Illinois, heads the company. Phil H. Taxman of Atlas Petroleum Co., Chicago, has been appointed to handle the fuel oil, gas oil and distillate sales of the plant.

DEATHS

BUCHANAN WOOD LINDLEY, 59, traveling auditor for Humble Oil & Refining Co., died July 21 in Nacogdoches, Tex. He had been connected with the company 20 years.

J. H. HARLAN, 54, cashier of Sun Oil Co., South Texas district, and assistant secretary-treasurer of Sun Pipe Line Co. of Texas, died July 21. With the company 31 years, he started as a telegraph operator in Dayton and worked his way through the accounting and land and leasing departments.

HARRY M. EVANS died at Pasadena, Calif., July 20. He was one of the prominent oil men in early days and a heavy investor in the Evans-Thwing Refining Co., which had refineries at Ponca City, Okla., and Gainesville, Tex., which later were sold to the Doherty interests. He also was one of the original organizers and stockholders in Lion Oil Refining Co. of El Dorado, Ark., with Mr. Thwing and E. C. Winters.

THE MARKETS*

CRUDE OIL: *No price changes. Problems incidental to the rapid increase in Illinois production are being solved so far with little or no increase in cut-price selling. Through changes in movement of pipe-line oil, Middle West outlets are being supplied with Illinois crude while the Mid-Continent crude which formerly went to those buyers, is being run to storage.*

REFINERY: *The expected improvement in gasoline has not materialized. Gasoline shipments continue heavy. Mid-Continent natural gasolines firm. Fuels and kerosene firm at coastal points but less active and weak at interior refining centers.*

TANK-WAGON AND POSTED DEALER: *The few changes announced the past week were in all cases reductions.*

FINANCIAL: *Oil stocks slightly higher but trail advances in general market. Average of 30 representative stocks for week ending July 22: High, 25.46; low, 24.33; close, 25. Week ending July 15: High, 24.63; low, 23.92; close, 24.38.*

**Detailed information in market section.*

Shell to Build Plant In West Texas Field

PAMPA, Tex.—The first natural gasoline plant for the Wasson-Denver area of northwestern Gaines and southern Yoakum counties has been started by the Shell Oil Co., Inc. The plant is being constructed at an estimated cost of $1,125,000 and will have a daily capacity of 30,000,000 cu. ft. of gas. Foundation for the plant already has been laid on the Shell's Lowe lease in the extreme southern part of Yoakum County, in Section 892, Block D, John H. Gibson Survey. It is in the area linking the Wasson and Denver pools, and will enable the plant to serve both areas. Completion of the plant is expected within 4 months.

Construction of the Shell's 6-in. pipe line from its Hobbs, N. M., station to the Wasson-Denver pool has been delayed. However, Shell plans to resume construction within the very near future and will have the line in operation around September 1. The line is to serve only the Wasson-Denver pool, and will not be extended to the Bennett pool, located in southeastern Yoakum, at the present time. That area now is being served by the Humble Pipe Line Co. which also is in the Wasson-Denver area along with the Aloco Pipe Line Co.

Gulf to Cease Buying Along Kansas Line

Gulf Refining Co. (Tulsa division), owning a combination 6- and 8-in. line from Jenks to Valley Center, by way of Eldorado, Kans., approximately 100 miles in length, is to cease buying oil from producers along its line. Its connections are being turned to other purchasers and a number of its lateral lines will be sold, or taken up, and the main line kept for its own production which has been increasing in western Kansas.

Shell Pipe Line Corporation Election of Officers

The directors of Shell Pipe Line Corp., St. Louis, Mo., have elected the following officers: President, R. P. Bascom; vice president, R. B. High; treasurer, W. A. Baker; secretary, J. B. Watkins; assistant treasurer, R. F. Gray, and assistant secretary, D. F. Sears. All are residents of St. Louis.

Phillips Petroleum Surveying League City Line

HOUSTON, Tex.—Phillips Petroleum Co. is surveying right of way, and contract is expected to be let during the week for construction of a 22-mile, 6-in. welded oil line from the League City field in Galveston County to the company's terminal on the Houston Ship Channel.

INTERNATIONAL

Richberg Declines Cardenas' Invitation To Resume Conference

President Cardenas' invitation to Donald R. Richberg, counsel for the oil companies, to resume the conferences on expropriation at Mexico City has been declined by Mr. Richberg. Mr. Richberg spent nearly a month in Mexico City earlier this year outlining the terms upon which the American and British companies were willing to settle. In broad terms, the companies are thought to have agreed to operate the properties under a long-term lease, said to be 50 years, leave the vested ownership with the Mexican Government and pay a stipulated portion of the proceeds into the federal treasury. In turn, the companies are said to have demanded a guaranteed labor contract, preagreed taxes and exclusive management.

The difficulty that so far has proved insurmountable is not the ownership of the oil lands, since the companies have become reconciled to seeing that vested in the Mexican Government. The companies are willing to operate the oil fields on a lease of 50 years or so, provided certain guarantees are given regarding labor conditions, wage scales, taxes, and similar matters. The stumbling block has been who shall manage the properties during the duration of the leases. The companies feel most positively that they must have full and undisputed management. Chief among the reasons is that successful operation will require a considerable outlay of fresh capital, which the companies are unwilling to invest in Mexico unless theirs is the only voice in deciding how it is to be used.

Another issue of paramount importance is the question in Mexico of saving face. Since President Cardenas has taken an unqualified stand on the oil dispute, the only out is through the controlled Supreme Court.

Some labor leaders are still insisting the oil properties should be turned over to the workers under an arrangement similar to that by which railroads were conveyed to the syndicate. Responsible cabinet officers and other advisors of the president are unwilling that the oil properties fall into the hands of labor since petroleum is an even greater economic asset than the railroads. Operation of the railroads under worker management has not been satisfactory either from operation or debt servicing standpoints.

Saudi Arabia Fire Extinguished by Company's Crew

Fire has been extinguished in a well known as No. 12 Dammam, Saudi Arabia, which caught fire Saturday, July 8. This was accomplished by the personnel of the California Arabian Standard Oil Co., operator of the well and subsidiary of the Standard Oil Co. of California.

Some days ago, when it appeared that unusual experience might be required to combat the fire, specialists in the United States were scheduled to leave on the Atlantic Clipper. This unprecedented trip has now been cancelled.

Two men—an American, William Eisler, of Kentucky, and a Saudi Arab—died from burns incurred at the start of the fire. There were no other serious injuries.

Mexican Workers Losing Enthusiasm, Says Ruth Sheldon

The same labor troubles which harassed private oil companies previous to expropriation of Mexican oil properties in March 1938 may prove the undoing of governmental ownership and operation according to Ruth Sheldon, writing in the current issue (July 29) of the Saturday Evening Post. Miss Sheldon spent several weeks visiting Mexico and making a special study of oil developments. She was the author of a series of articles covering producing, refining and marketing conditions which were published in the May 18, May 25 and June 1, 1939, issues of The Oil and Gas Journal.

In her Post article entitled "What Has Happened to Mexico's Oil," Miss Sheldon points out that the demands of union labor which were a major factor in bringing about the seizure of British- and American-owned oil properties continue to plague the new owners. Disappointed, in that the government has not been able to carry out all of its promises to the well organized workers, the union is now demanding that the properties be turned over to them.

Following expropriation, Miss Sheldon explains, "in its enthusiasm, the union went on a name-changing spree. Streets, colonies and schools in all of the oil camps were renamed 'Eighteenth of March.' In one oil camp the workers built a wooden monument to expropriation. Today, termites have digested much of the monument, and the fluted column is on the ground, covered with grass upon which burros happily graze.

"This is symbolic of a waning enthusiasm after a year of expropriation. The novelty is gone, and throughout the oil fields workers are complaining, demanding that conditions be changed immediately."

Showing of Oil Found in Test in Santo Domingo

Indications were given last week that the Dominican Republic may be added to the list of world oil-producing countries. While running drill pipe in the hole on the Dominican Seaboard Oil Co. test on Maleno dome in the Higuerito concession near the town of Azua in the province of Azua, 60 miles northwest of Santo Domingo, the well blew out and accompanying drilling water was an undetermined volume of 36° A.P.I. oil.

At the time of the blowout the hole contained only about 150 ft. of surface casing. Due to evidence of shallow showings in drilling mud returns when the hole was being drilled between 400 and 600 ft. operators can not determine the exact source of the oil until casing is set. Present total depth of the wildcat is 1,100 ft. It is being drilled by Allen & Morris, San Antonio, Tex., drilling contractors.

News dispatches from Ciudad Trujillo reported the well to be flowing 600 bbl. per hour, but at the New York offices of Dominican Seaboard this information was discounted upon receipt of cables from resident representatives. Cabled reports to the company told of the blowout and related that an undetermined volume of 36° gravity oil was recovered before the well was brought under control.

Plans are to set 10-in. casing at the present depth of 1,100 ft. and determine the source of the high-gravity showing before determining whether to complete the well or to continue to the original goal at approximately 3,000 ft.

A more detailed geological investigation of the Yaguate concession of 160,000 acres just east of the Higuerito concession and owned by Harold C. Bishop of New York is to be carried out during the summer.

Fred W. Plummer, professor in the department of economic geology in the University of Texas, accompanied by Mrs. Plummer, a paleontologist, originally planned to leave with Mr. Bishop July 30 from Miami, Fla.

Dominican Seaboard Oil Co., Inc., Maleno location, Higuerito Concession, Azua Province

Colon Output Revised

A corrected report credits Colon Development Co., Ltd., with production of 456,963 bbl. in June from the Tarra field in western Venezuela. The revised total is a daily average of 15,232 bbl. for the month compared to 15,160 bbl. daily, or a total of 454,795 bbl. originally reported.

I.O.C.C.

(Continued from Page 69)

desirable. The bureau's demand forecast of 3,350,000 bbl. daily runs was based on the assumption that seasonal reductions would be made in the second quarter. The third-quarter demand for gasoline might be about 7 or 8 per cent above that of last year. Conditions in the last quarter of 1938 were extremely favorable, so this year's increase might not be more than 3 per cent.

"I think it would be safe to reduce stocks of all kinds below what our demand indicates," Dr. White said in closing.

A report expected to be a subject of interested discussion at the fall meeting was that submitted by the Advisory Committee on Economics, composed of Dr. Alexander Sachs, chairman, E. DeGolyer, and Dr. Joseph E. Pogue. The report read by Mr. DeGolyer sets forth certain principles "as embodying the fundamentals of the conservation movement which the commission is charged with furthering." (The report is given in full on p. 69.)

State Senator Clint Small, of Texas, who discussed the gas laws of his state, took frequent excursions from his prepared address, usually to flip a hot barb in the direction of Illinois.

"We used to think," he said, "that ownership of property carried with it the right to do what you pleased with it. Waste it if you wanted to. We awoke one day to realize that great volumes of oil and gas were being wasted through lack of control. We tried to stop it. We made the wrong approach at first—tried to give everybody a market. When we found we couldn't take a market from one man and give it to another we began to enact laws—not to provide a market for everybody, but to conserve a natural resource. We had to find out where the rights of the individual ended and the rights of the public began. In these laws that have been passed there is no intent to stimulate prices beyond the point at which orderly operation of the law of supply and demand would fix them.

"Once you eliminate selfishness from industrial operations, once you approach the subject from the standpoint of public interest, you will get the dollar that belongs to you. Those fellows in Illinois are kidding nobody but themselves. I wish there were some way of bringing them to the bar of justice. But Texas can't do it. Oklahoma can't. New Mexico can't. And being exponents of state rights, we don't want the federal Government to do it.

"We must eradicate as much as possible of the selfishness that ties the hands of this commission. You just can't contend that the man with 10 wells on a 20-acre plot has a right to produce more oil than his neighbor with five wells on a plot of the same size, provided those wells are sufficient to drain the acreage adequately."

Senator Small took a shot at certain large companies which, he said, urged conservation in Texas, but which, upon entering the Illinois field, violated the very principles they had preached so fervidly.

Colonel Thompson recounted briefly the troubles that had beset the Texas Railroad Commission, of which he is a member, when the Texas Legislature passed a law dropping the whole problem of the East Texas field into the Railroad Commission's lap. "That field," he said, "was drowning itself and the country. Oil went to a dime a barrel. The commission tried to establish proration. The law directed us to do that. We were thrown out of courthouses 212 times before we ever got a legal order. We were thrown out of some of the best courthouses in Texas. I was enjoined seven times one day between my hotel and the Capitol. Two hundred injunctions were in force at one time. Today we have only one fresh injunction, and it does not attack conservation or proration in principle.

"When that field was pretty well developed, with 5,000 or 6,000 wells, engineers were fairly uniform in their estimate that we would get an ultimate recovery of 1 billion barrels, maybe a little more. We already have recovered 1,400,000,000 bbl. and the bottom-hole pressure stands at 1,100 lb. Now the engineers estimate that 2 billion barrels more of oil will be recovered. This whole plan of proration and conservation administration must be developed through a sympathetic understanding of the problems of the operator in the field."

Commenting on conditions in the refining division as described by Mr. Roeser, Colonel Thompson remarked, "If the refiners and marketers don't want to be regulated—well, they must make regulation unnecessary."

Former Lt. Gov. Hiram M. Dow, of New Mexico, who led in getting that state's conservation statute passed in 1935, gave a minute study of the measure, commonly referred to as a model. "Present conditions of overcapacity to produce will gradually disappear," he said, "and those states which have truly conserved their petroleum reserves will be well repaid."

Governor Miles expressed his gratification at the harmonious character of the meeting and the growing tendency toward unity of action. He complimented Senator Small on the forthrightness of his talk. He said New Mexico's oil industry paid 97 per cent of its severance taxes, 25 per cent of its sales tax, and a large part of the other taxes.

Judge Edward Fouts, Houston, legal advisor to the Texas representative in the commission, characterized Mr. Dow's appraisal of New Mexico's conservation law as "unquestionably accurate" so far as it applies to New Mexico at this time, but suggested that Mr. Dow might revise it himself 10 years from now. "I don't think we ever will find any rule of thumb that will solve all our problems," he added. "A rule that will fit one case may not fit others. But we are on the right track, that of approaching our problems by way of established facts."

P. J. Hoffmaster, from Michigan, new member of the commission, told of his state's conservation staute, which went into effect last May 3, patterned largely after the New Mexico law. "The people of Michigan are back of the effort to control production and eliminate waste," he said. Mr. Hoffmaster is director of the Department of Conservation and supervisor of wells in his state.

The commission is disposed at times to grapple with problems outside its province, according to John R. Suman, vice president of Humble Oil & Refining Co., who added that the body should confine its activities to elimination of waste. If production of crude were controlled so as to avoid all waste there would be no overproduction, he declared.

W. J. Armstrong, conservation officer of the Oklahoma Corporation Commission, said Illinois was likely to adopt a conservation program through force of necessity when it realizes that its fields are being ruined by improper production methods. In the meantime other states may have to curtail their output because of the flood of crude from Illinois.

State Senator Tom Anglin, of Oklahoma, directed a few pointed shafts at Illinois and named a major oil company which he said was responsible for the state's failure to pass a conservation law. "As the situation stands now," he added, "we'll have to take it on the chin."

"It is true," said W. M. Downing, Colorado, "that a law that is best for one state may not be best for another, but I believe the problems of conservation can be handled better through the states than through federal bureaus. There has been as much progress in writing laws as there has been in the various branches of the oil industry itself. The principle of the law of capture has gone forever."

The commission adopted a resolution, offered by W. J. Holloway, Oklahoma, thanking President Roosevelt, the Department of the Interior and members of Congress for their readiness to extend the life of the compact commission.

Brief talks were given by E. B. Swanson, assistant director of the petroleum conservation division of the Department of the Interior; James Murray, lieutenant governor of New Mexico; C. L. Orr, attorney for the commission; T. A. Morgan, conservation director of Kansas, and Andrew F. Schoeppel, Kansas.

The chairman of the commission was authorized to select the time and place for the fall meeting.

NEW BILL

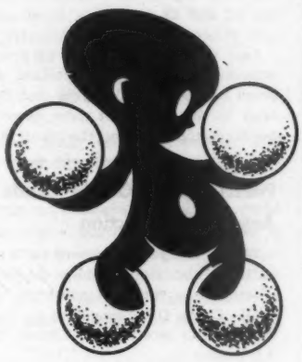
(Continued from Page 75)

oil from storage and to require unit operation of newly discovered pools. At that time the oil code was not operating very smoothly and Congress delayed action on the Thomas-Disney measure in spite of the fact that on May 24 President Roosevelt wrote letters to the chairmen of the committees urging speedy enactment of the measure, and Secretary Ickes appeared before both committees and endorsed it strongly. The Thomas bill reached the Senate floor but was not enacted upon, while the House committee on interstate and foreign commerce voted not to report the Disney bill but on June 14, 1934, shortly before the end of the session, the committee approved a resolution directing a subcommittee to investigate the general oil situation and make recommendations at the next session.

THIS investigation, generally referred to as the Cole investigation because Representative Cole was chairman of the subcommittee, held hearings during the fall of 1934, and Secretary Ickes appeared before this group and again urged federal legislation to control oil production, declaring that states alone cannot cope with the situation. His recommendations at that time were not far different from those made this spring by the National Resources Committee. On November 14, 1934, Secretary Ickes, addressing the American Petroleum Institute at Dallas, Tex., suggested that the oil industry be treated as a public utility and threatened that if waste in production were not stopped by the industry the federal Government would step in to force conservation.

The Cole committee submitted a report when Congress convened January 3, 1935, recommending that a single federal agency be given authority to set petroleum production quotas and make various types of studies and recommendations, but suggested that direct federal control of production not be considered until later in the session. That same week, however, the Supreme Court held invalid Section 9(c) of the N.I.R.A. under which Secretary Ickes as administrator of the oil code regulated shipments of hot oil. This immediately brought new demands for federal control. The Thomas-Disney bill was reintroduced and Representative Cole and others introduced bills to give the federal Government varying degrees of control over production. President Roosevelt again endorsed the Thomas bill, but eventually the Connally Act was passed in its present form giving the federal Government authority only to prevent interstate shipment of oil produced in violation of state conservation orders.

Training the atoms



Here is a black carbon atom with four white hydrogen atoms Together they form a hydrocarbon molecule

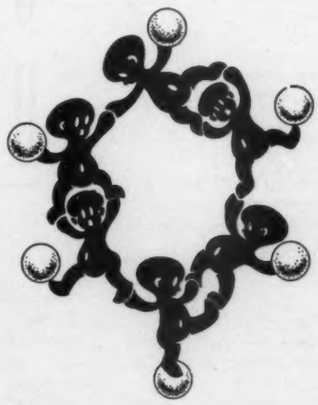
Gasoline is made up of hydrocarbon molecules

How good the gasoline is depends on how the atoms are arranged and trained

Here's heptane—C_7H_{16}—prominent in straight-run gasoline Atoms arranged by Nature—octane number zero

At the right below is benzol, C_6H_6—an anti-knock molecule—atoms arranged by Dubbscracking

Dubbscracking assembles the atoms in the oil into various anti-knock molecules, including those of the benzol series



That's why Dubbscracked gasoline gives the motorist more knock-free miles for his money

Universal Oil Products Co
Chicago, Illinois

Dubbs Cracking Process
Owner and Licensor

PROGRAMS AND MEETINGS

Appalachian Meter School To Be Held August 21-23

H. J. Wagner, senior natural gas engineer, Public Service Commission of West Virginia and chairman of the Meter School committee, has announced that all is in readiness for this year's Appalachian Gas Measurement Short Course to be held at the University of West Virginia in Morgantown, August 21, 22 and 23.

An outstanding list of speakers has been secured for the various sessions. General meetings will be held in the morning on Monday and Tuesday at which time those present will be addressed by recognized authorities on various economic phases of gas measurement and control. These speakers include Dr. C. E. Lawall, acting president of the university; W. A. Wallace, Jr., president of the Oil and Gas Association of West Virginia; George E. Welker, president, United Natural Gas Co.; C. C. Phillips, superintendent of transmission, Ohio Fuel Gas Co.; B. L. Maulsby, manager, Lynchburg Gas Co.; A. M. Hutchinson, superintendent of gas measurement, Ohio Fuel Gas Co., and C. C. Reed, general superintendent, Hope Natural Gas Co.

Classroom sessions of 1 hour and 15 minutes each will be conducted afternoons and all day Wednesday by gas company engineers and representatives of the equipment manufacturers. A wide variety of subjects will be offered during each period from which a choice may be made. Repeat classes are scheduled to take care of conflictions in interest.

The following firms have been invited to participate with exhibits and have representatives scheduled to conduct classes:

Pittsburgh Equitable Meter Co., American Meter Co., Chaplin-Fulton Manufacturing Co., Tomlinson Steam Specialty Co., Mellon Institute, Foxboro Co., Reynolds Gas Regulator Co., Meriam Co., Sprague Meter Co., Roots-Connersville Blower Co., Fisher Governor Co., Refinery Supply Co., Reliance Regulator Co., and Bristol Co.

Chemistry Building, West Virginia University, where meter meetings will be held

Next Kansas-Oklahoma Tax Meeting at Ponca City

The next regular meeting of the petroleum industry tax representatives (Kansas-Oklahoma area) will be held Monday, July 31, at Ponca City, Okla. All of the tax meetings and the dinner in the evening will be held at the Rock Cliff Country Club.

West Virginia Association To Meet in September

The annual convention of the West Virginia Oil and Natural Gas Association will be held in Charleston, the state capitol, on Wednesday and Thursday, September 27 and 28, according to an announcement by Edwin Robinson, secretary-treasurer.

Last year an outstanding program attracted a record attendance to the 2-day meeting. An equally fine program will be held this year and the date has been set later in the hope that more comfortable weather will be experienced during the meeting.

Pennsylvania Grade Crude Association Election

W. F. Clinger, president, Clinger Oil & Gas Co., Tidioute, and vice president of Superior Oil Works of Warren, was reelected president of the Pennsylvania Grade Crude Oil Association at the board of directors organization meeting in Warren. This is Mr. Clinger's third term.

Other officers also reelected: Parker L. Melvin, Towne-Melvin Oil Co., Bradford, and Otto Walchli, Richardson Petroleum Corp., Wellsville, N. Y., vice presidents; John A. Beck, Pennsylvania Refining Co., Karns City, recording secretary; S. Messer, Quaker State Oil Refining Corp., Oil City, treasurer; W. R. Reitz, Quaker State Oil Refining Corp., Oil City, assistant treasurer; J. E. Moorhead, Oil City, executive secretary; S. A. Harwell, Jr., Oil City, assistant secretary, and Fayette B. Dow, Washington, D. C., general counsel. Samuel F. Pratt, Oil City, was reappointed European manager.

MAGNETIC STORM

TUCSON, Ariz., July 23.—A moderate storm began July 21 at 4 a.m. and ended July 22 at 8 a.m., central standard time.

CALENDAR OF EVENTS

August

APPALACHIAN METER SCHOOL GAS MEASUREMENT SHORT COURSE, University of West Virginia, Morgantown, August 21-23.

KANSAS GEOLOGICAL SOCIETY, thirteenth annual field conference, jointly with Illinois and Missouri state surveys and Illinois Geological Society, in southern Illinois and eastern Missouri—August 30-September 3.

September

AMERICAN SOCIETY OF MECHANICAL ENGINEERS, New York, September 4-8.

OIL WORKERS INTERNATIONAL UNION, Hammond, Ind., September 5.

NORTH AMERICAN GASOLINE TAX CONFERENCE, annual meeting, Niccolet Hotel, Minneapolis, Minn., September 11-13.

MONTANA NATIONAL BITUMINOUS CONFERENCE, Sun Valley, Idaho, September 11-14.

AMERICAN CHEMICAL SOCIETY, Boston, Mass., September 11-15.

NATIONAL PETROLEUM ASSOCIATION, thirty-seventh annual meeting, Hotel Traymore, Atlantic City, N. J., September 13-15.

WEST VIRGINIA OIL AND NATURAL GAS ASSOCIATION, annual meeting, Charleston, September 27-28.

October

NATIONAL LUBRICATING GREASE INSTITUTE, Stevens Hotel, Chicago, October 2-3.

AMERICAN INSTITUTE OF MINING AND METALLURGICAL ENGINEERS, Petroleum Division, Galveston, Tex., October 4-6.

TEXAS DIVISION, MID-CONTINENT OIL AND GAS ASSOCIATION, twentieth annual meeting, Houston, Tex., October 5.

TEXAS MID-CONTINENT OIL AND GAS ASSOCIATION meeting, Houston, Tex., October 5-7.

AMERICAN GAS ASSOCIATION, annual convention, New York, October 9-10.

NATIONAL TAX CONFERENCE, Palace Hotel, San Francisco, Calif, October 16.

SOCIETY OF AUTOMOTIVE ENGINEERS, annual dinner, Hotel Pennsylvania, New York, October 16.

INDEPENDENT PETROLEUM ASSOCIATION OF AMERICA, tenth annual meeting, Fort Worth, Tex., October 18-20.

AMERICAN INSTITUTE OF MINING AND METALLURGICAL ENGINEERS, Petroleum Division, Los Angeles, Calif., October 19-20.

WEST VIRGINIA PETROLEUM ASSOCIATION, Hotel Daniel Boone, Charleston, W. Va., October 25.

COLORADO PETROLEUM INDUSTRIES COMMITTEE, annual convention, Shirley-Savoy Hotel, Denver, Colo., October 27.

November

SOCIETY OF AUTOMOTIVE ENGINEERS, fuels and lubricants meeting, Mayo Hotel, Tulsa, November 2-3.

NATIONAL MOTOR TRUCK SHOW, Navy pier, Chicago, November 8-16.

AMERICAN PETROLEUM INSTITUTE, twentieth annual meeting, Stevens Hotel, Chicago, November 13-17.

AMERICAN INSTITUTE OF CHEMICAL ENGINEERS, Providence, R. I., November 15-17.

December

WEST CENTRAL TEXAS OIL AND GAS ASSOCIATION, Abilene, Tex., December.

AMERICAN SOCIETY OF MECHANICAL ENGINEERS, Philadelphia, Pa., December 4-7.

February 1940

AMERICAN INSTITUTE OF MINING AND METALLURGICAL ENGINEERS, New York, February 12-15.

April

AMERICAN ASSOCIATION OF PETROLEUM GEOLOGISTS, twenty-fifth annual meeting, Stevens Hotel, Chicago, April 10-12.

AMERICAN PETROLEUM INSTITUE, EASTERN DISTRICT, Division of Production, Columbus, Ohio, April 11-12.

NATIONAL PETROLEUM ASSOCIATION, semi-annual meeting, Cleveland Hotel, Cleveland, Ohio. April 18-19.

May

INTERNATIONAL PETROLEUM EXPOSITION, Tulsa, May 18-25.

June

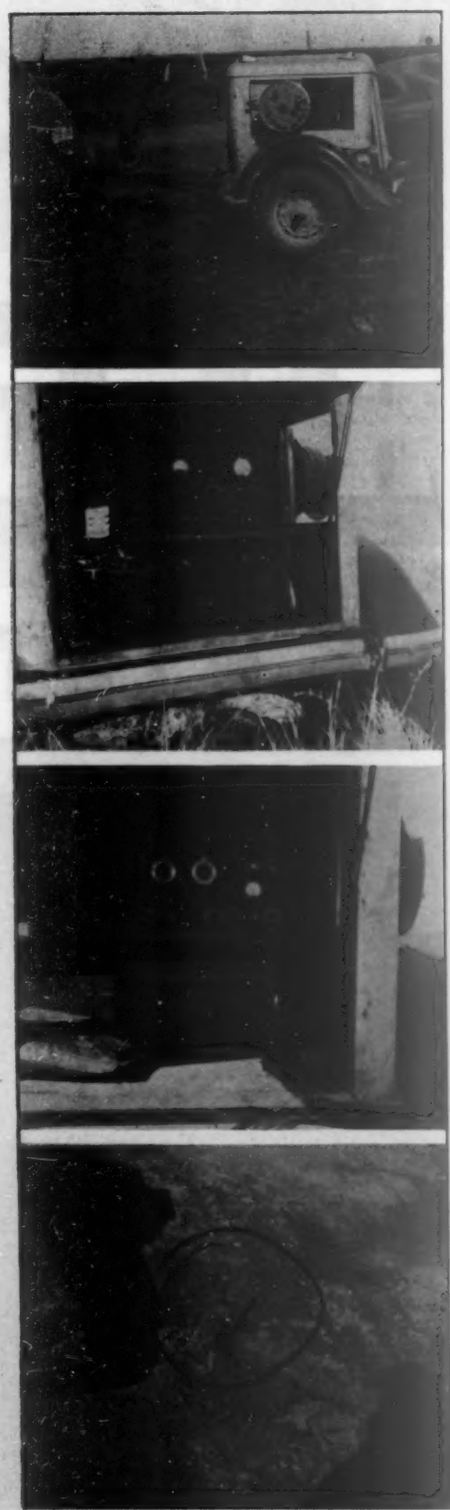
THIRD WORLD PETROLEUM CONGRESS, Berlin, Germany, June 9-15.

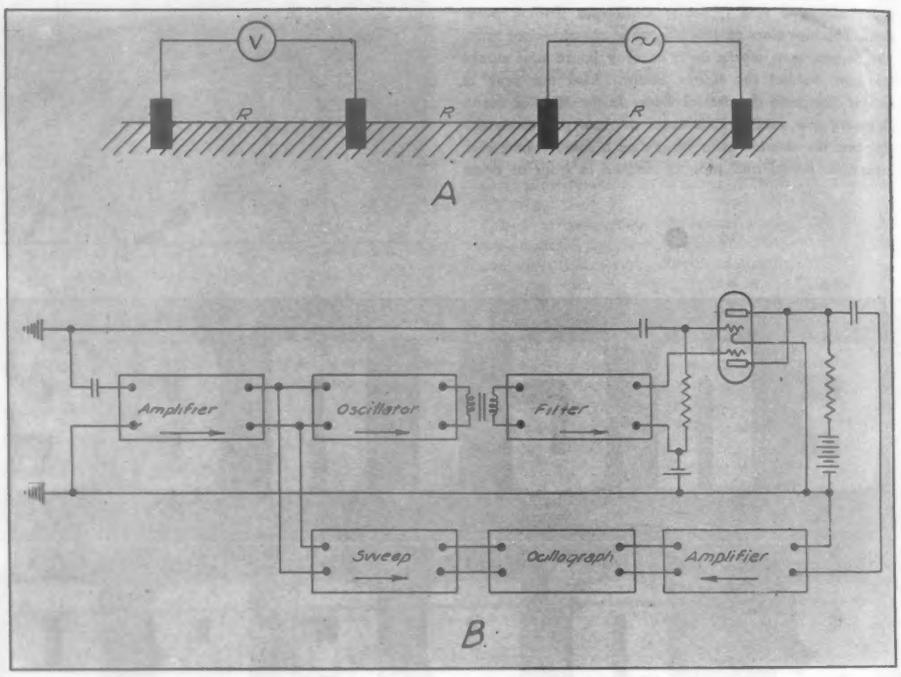
California operators do many things differently. The photo shows a few typically California drilling practices. The elevators on this rig are of the side-door type. The derrick man works on a monkey board and stacks the pipe behind the finger board. Also the pipe is racked alongside the derrick floor. In the Mid-Continent, elevators are used which open at right angles to the sheaves, the derrick man stands on a fourble board or a thribble board and pipe is stacked in front of drum

ENGINEERING & OPERATING

JULY 27, 1939

Use of the Transient and Methods in the Search





Schematic diagram of equipment used in the electrical transient method for the lateral exploration of petroleum deposits

By KURT W. STEINMANN

SINCE the days of the witching sticks and doodle bugs geophysical prospecting has come a long way. In comparison to such physiological applications which were not rational or scientific, and which were not based on physical principles that were either known or understood, modern geophysical methods are based on rational and scientific study; they all use definite physical principles which are known and, broadly speaking, understood.

In the course of time a number of methods were developed, but in each case it was natural that all new methods were regarded with reserve and suspicion until they had been thoroughly and carefully tested. Moreover, as knowledge and experience increased, the problems for solution became more complex. Today, laboratories of all major oil companies and most geophysical contracting firms are constantly engaged in the development of new instruments or improvements of existing and adapted methods. No reliable information as to the expenditures on geophysical developments is available, but a rough estimate would reveal that approximately $1,000,000 is spent each year in the United States for research work alone.

Figs. 1, 2, 3, and 4, at left, show some of the equipment used. The two-wheeled trailer transports the electrical transient units. The generator unit and the recording unit are next seen, while the picture at the bottom shows the power electrode (encircled) which the generator man has placed in the ground

As a result of such thorough and rather expensive investigations by one company, the transient and soil analysis methods may be regarded as noticeable achievements, and the soundness of these methods, their availability for general use, and their success is a matter of the greatest interest. Consequently, it is the purpose of this article to discuss the principle and field procedure of these methods from a practical viewpoint.

For many years, attempts have been made to use the conductivity of ores for their discovery, and various types of electrical instruments, using either direct or alternating current, were applied. The first practical method using direct current was introduced by Schlumberger in 1912 and later applied in Sweden and Germany with alternating current. The application of alternating current then led to further perfection and development of new methods, particularly applicable in the search for petroleum deposits. However, due to the fact that special instruments of highest precision had to be used and a thorough electrophysical knowledge was necessary to accurately measure and correctly interpret the distortion of electric ground fields, the electrical method had gained little recognition among oil men until the transient method was commercially introduced.

The transient prospecting method was invented and introduced to the industry by Dr. W. L. Blau and Louis Statham several years ago and was

Soil Analysis for Oil

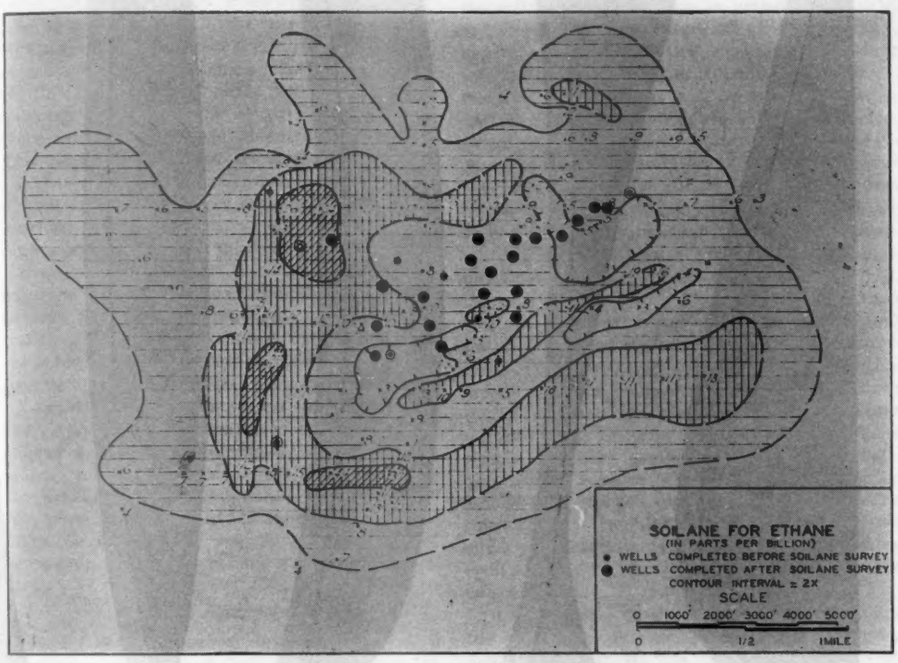
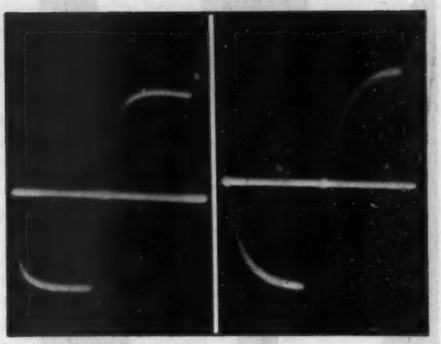

SOILANE FOR ETHANE
(IN PARTS PER BILLION)
WELLS COMPLETED BEFORE SOILANE SURVEY
WELLS COMPLETED AFTER SOILANE SURVEY
CONTOUR INTERVAL = 2X
SCALE
0 1000' 2000' 3000' 4000' 5000'
0 1/2 1 MILE

Fig. 6—Typical map constructed after making analysis of samples of earth for ethane



Figs. 5a and 5b—Typical photographs of curves produced in the study of transient electric fields. On the left (5a) is shown a steep transient

modified and improved by Dr. E. E. Rosaire. The electrical transient is simply a current which flows in a circuit for a short time following an electro-magnetic disturbance. For about 2 years this method has been applied for the solution of various geological problems, and results have been satisfactory. At the present time, seven transient crews are constantly engaged in the search for structures favorable for the accumulation of oil and gas, and due to the speed and economy of the method, it has found a definite place among the various accepted geophysical prospecting methods.

Briefly explained, the transient method measures lateral changes in the shallow sediments which are indirect evidence of buried structures, but are not any direct function of their depth or relief. This would be true of any electrical method using an unvarying electrode configuration. Thus, a low-relief or deep-seated structure may show up as clearly on a transient record as a high-relief structure. It may be pointed out in this connection that there is some proof that these indirect evidences even exist over such stratigraphic traps as sand lenses. A widely accepted theory is, that over a structure the properties of the earth are changed. Examples of this change are seen in greater drilling time on structure than off and increase in seismic velocities over a dome. An extension of this theory pictures the slow upward diffusion of gas from an oil and gas pool as evaporating water over the structure. The dissolved salts in this water are deposited, increasing the mineralization and also the conductivity. Contrary to the way in which electrical methods have been commonly applied heretofore, the transient method relies entirely upon lateral exploration, and makes no attempt at depth predictions.

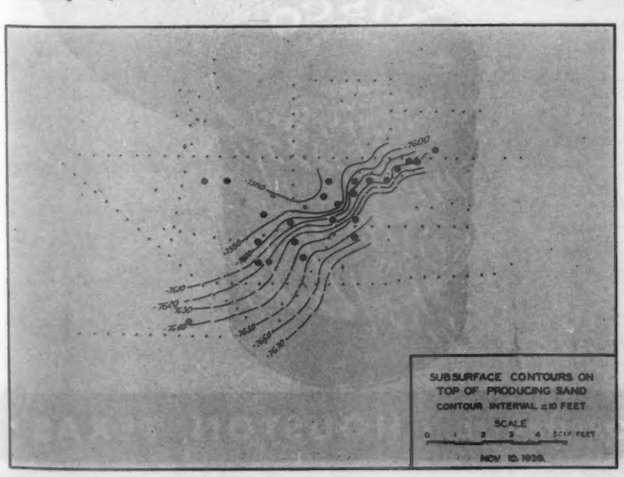


Fig. 7—Contours on top of producing sand made from readings taken every 10 ft.

One of the most important features of this new method is the flexibility of the equipment to operate in difficult areas. The apparatus is mounted in two-wheeled trailers (Fig. 1), which are usually towed by light trucks or even passenger cars. These small streamlined trailers, although sturdily built, are extremely light in weight, and provisions have been made to attach a third wheel so as to allow the trailers to be drawn by a team of horses, etc., in case the territory does not permit the operation of a motor vehicle. Both trailers are of the same construction, having two openings on the sides and a large opening in the rear. A reel equipped with 1,000 ft. of cable for attaching to an electrode is provided on each side of both trailers. As shown in Figs. 2 and 3, one trailer accommodates a number of regular storage batteries and a generator, and is simply called generator unit, while the other houses the oscillograph, with amplifiers and time camera, and is known as the recording unit.

Field Procedure

Ordinarily, a transient prospecting party consists of eight men: the surveyor and his assistant, two electrode hole diggers, the observer or party chief who is in charge of the recording unit, his helper, and the generator man with his helper. These men have at their disposal two light pick-up trucks and two passenger cars, which latter are primarily used for pulling the trailers previously described.

As is common with other geophysical methods, the territory under consideration will have to be surveyed first by means of a transit or plane table in order to determine the location of the station sites. A further important duty of the surveyor's crew consists of scouting the prospective terrain, reporting on the presence of power lines, pipe lines, etc., so that final results may not be shaded by such artificial distortation of the electric current later passed into the ground. Sometimes, in extremely dry terrain, it becomes necessary to dig shallow holes in the ground and fill them with salt water in order to establish a better electrical contact after the electrode locations have been made by the surveyor and rod man.

As soon as this preliminary work has been attended to, both the generator unit and recording trailer are made ready for operation. As a first step, the generator man places a power electrode in the ground at Station 1 (Fig. 4). Along a straight line 1,000 ft. farther, a second power electrode is embedded in the soil and the same distance apart a search electrode is planted. The other search electrode is located another 1,000 ft. farther along the profile. The power electrodes, which consist of small rods about a

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foot long, are linked by means of cables to the generator unit. The two search electrodes, which are rods similar to the power electrodes, are connected to the oscillograph. After all these connections have been properly made, the observer checks his instruments and signals the generator man to turn on the current, which is passed into the ground through the power electrodes. When the switch is first closed the current flows directly between the electrodes in a very thin layer near the surface but rapidly spreads to progressively greater depth and distances. Although the incoming electrical transient is recorded photographically, the operator is in a position to observe it through a filter screen provided on one side of the oscillograph. In case the subsurface structures through which the current passes are of anomalous electrical characteristics, the incoming flow of current will differ from that normally observed. The higher the resistivity of a bed the more rapid is the spread of current through it. This results in a steeper transient as shown on Fig. 5a. A number representing the steepness is plotted on the map. Over regions of higher conductivity the number is large. Ordinarily, five repeated observations are taken at one point, after which the observer will give the signal to the electrode man to disconnect the search cable and advance the rear search electrode. The recording trailer is then likewise pulled up 1,000 ft. and the cable connected to the rear search electrode, each of the four electrodes being advanced 1,000 ft. Again the current is passed into the ground and repeated observations are made in the same manner as previously described. During this procedure, the observer makes his notations as to the location of the station site, time, and the result visually observed. Commonly, the films (Figs. 5a and 5b) are sent to headquarters for developing and then turned over to the computist.

Soil Analysis

Since a transient survey involves the location of stations at which shallow holes are dug, the collection of soil samples at these already located and dug holes accounts for negligible additional expense. The usual practice, then, is for the transient crew to collect soil samples, which, after being properly identified as to their source, are shipped to the laboratory for analysis of significant constituents.

Laboratory Procedure

The procedure, as recently developed by one company, is essentially as follows:

Upon arrival at the laboratory, part of each sample to be analyzed is utilized for a determination of the moisture content. The remainder of the soil sample, in the jar in which it was originally collected and transported to the laboratory, is affixed to the analytical apparatus. The first step is the removal by evacuation, of the air remaining in the jar as well as that occluded in the soil sample itself. The air content is rejected, as careful analyses have shown that any significant constituents present are of negligible amount and importance. The sample is now raised to a temperature high enough to volatilize the absorbed gas, but low enough to obviate the possibility of decomposition of contained organic matter. Of the appreciable amounts of gas so evolved, the greater part is air. This evolved gas is then treated to remove traces of carbon dioxide and water vapor, and then separated into three fractions. Of these three fractions, one is noncondensable at the temperature of liquid nitrogen (—196° C.) and consists largely of air together with the small amounts of hydrogen and methane which have been evolved from the soil sample. The second fraction consists, primarily, of the ethane and propane evolved from the sample. The third fraction contains the mixture of oxidized and polymerized hydrocarbons which were evolved from the sample together with the other two fractions.

Of these three fractions, that which contains the ethane and propane is usually considered the most significant, for the methane may have resulted from the decomposition of organic matter, and the concentration of the oxidized and polymerized hydrocarbons depends upon factors not clearly understood at the present time.

The ethane fraction is now burned by being passed over a glowing platinum wire after being mixed with properly purified oxygen. The products of combustion (carbon dioxide and water vapor) are collected in suitable traps, after which their volume is measured under standard conditions. From these measured volumes of the products of combustion, the weight of the originally evolved ethane is calculated. Having determined the weight of the original soil sample, the resulting significant data are the parts of ethane per billion parts of soil, by weight.

These ethane concentrations are those plotted on a map of the sample locations, and contours drawn so as to include those areas with concentrations above a significant minimum amount. Such areas of higher concentration are then cross-hatched in order to be properly differentiated from areas of lower concentration.

At the present time, two types of significant patterns of ethane concentrations have been recognized. One is long and narrow, and has been found to be associated with the surface trace of a fault which, at depth, intersects a zone of accumulation. The other is in the form of a doughnut, or halo, which surrounds an area of low concentrations tending to localize on the surface the zone of production at depth.

Two Types of Patterns Recognized

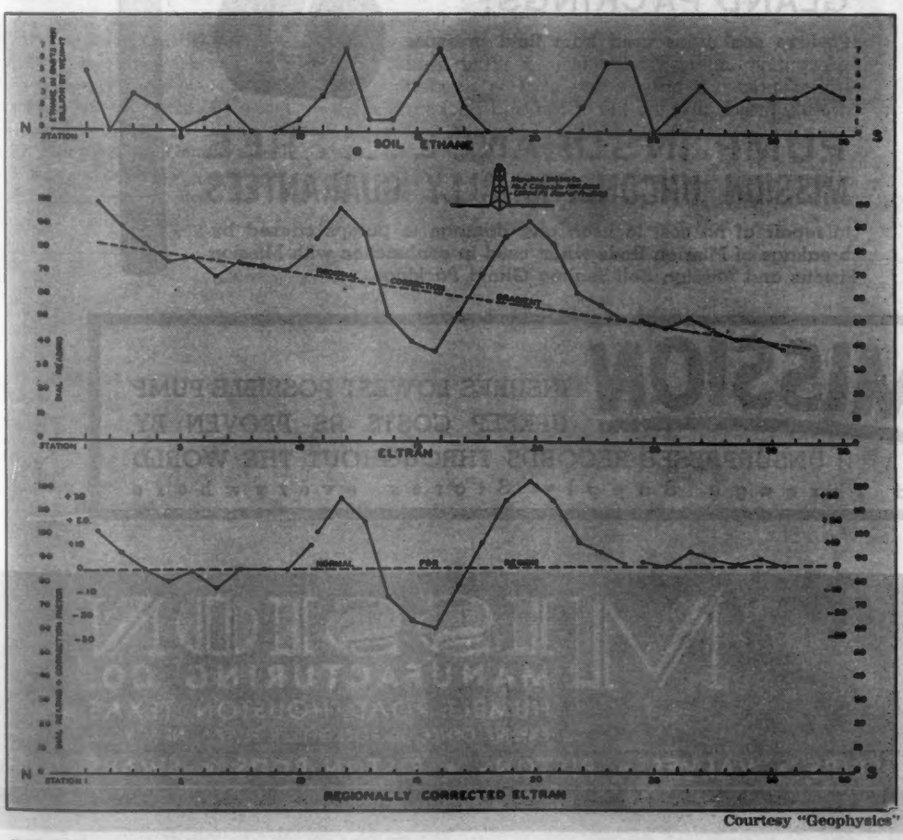
As an illustration of the relationship of such a halo to buried production, attention is called to the Eureka oil field (Harris County, Texas), comprising Figs. 6 and 7, made available through the courtesy of Jack Frazier, for whom this work was done, and Louis Franklin, who furnished the subsurface contours.

At the time the work was done, the only information available as to the real extent of the Eureka field was that shown by the two dry holes, two gas wells and the discovery well. That the area had not been considered of economic significance is attested to by the length of time prior to the discovery of oil in that field during which the two gas wells had been shut in, a period of something more than a year.

With regard to the ethane concentrations, the horseshoe-shaped area of concentrations of 10 and more parts of ethane (per billion parts of soil by weight) is the obviously significant phenomenon. The subsequently completed wells indicate the remarkable extent to which this partial halo coincides with the area of production at depth. Whether the Eureka field represents a structure of very low relief or a stratigraphic trap has not been decided upon. Likewise, the mechanism by which this near surface pattern of ethane concentrations resulted is one which opens up many possible ways of discussion. On the other hand, there is no doubt as to the empirical relationship between the near-surface pattern of ethane concentrations and the area, some 7,700 ft. and deeper, within which production has been established.

As an illustration of the relationship between transient and soil analysis data, attention is called to Fig. 8 showing the results of a profile across the South Elton field (Jefferson Davis Parish, South Louisiana) shortly after the discovery of oil there. The transient data show two localized zones of anomalously high values. It can be seen, however, that the northern transient anomaly is associated with an area of high ethane concen-

(Continued on Page 88)



Courtesy "Geophysics"

Fig. 8—Comparison of data derived from electrical and soil analysis for ethane. Reading taken in South Elton oil field in Jefferson Davis Parish, Louisiana

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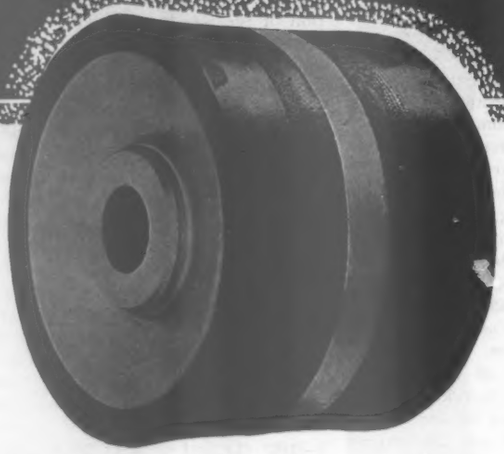

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Recent Developments in Copper Alloy Condenser Tubes

By N. W. MITCHELL
Research Metallurgist, Chase Brass & Copper Co., Inc.

THE effect of very small amounts of alloying elements upon the properties of metals has always engaged the attention of metallurgists. Carbon alloyed with iron in amounts much smaller than 1 per cent determines the characteristics of the steel. One-half per cent of molybdenum greatly modifies the properties of the chromium and nickel-chromium steels with which it alloys. One-tenth of 1 per cent of phosphorus lowers the conductivity of copper 50 per cent.

Recent developments in copper alloys for condenser tubes comprise the addition of small amounts of antimony and arsenic to Admiralty brass to improve its corrosion resistance. The effect of arsenic in small amounts on corrosion of brass has been known for a long time. In 1921 G. B. Bengough discovered that Admiralty tubes containing small amounts of arsenic retarded the redeposition of copper, or in other words slowed up the appearance of dezincification.[1] In 1924 Bengough and May reported that amounts of arsenic as small as 0.02 per cent prevented the dezincification of 70-30 brass in sea water up to at least 50° C.[2] The effect of arsenic to this end, therefore, is much more powerful than that of tin. In 1931 G. Masing conducted carefully regulated laboratory tests which confirmed observations of Bengough and May that traces of arsenic retard or prevent the dezincification of brass.[3] The effect was shown to increase with rising arsenic content between 0.01 and 0.08 per cent and decrease slightly with decreasing copper content in alpha brass. Arsenic was found to have no retarding effect on the dezincification of alpha and beta brasses. Masing's experiments led him to the conclusion that the beneficial effect of arsenic is attributed to the smaller overpotential and to the consequent greater readiness of reduction of dissolved oxygen at higher potentials.[4] In other words, the evolution of hydrogen was favored to the extent that the precipitation of copper is prevented. During the corrosion of arsenical brass the surface of the metal becomes covered with a film, apparently consisting of elementary arsenic.

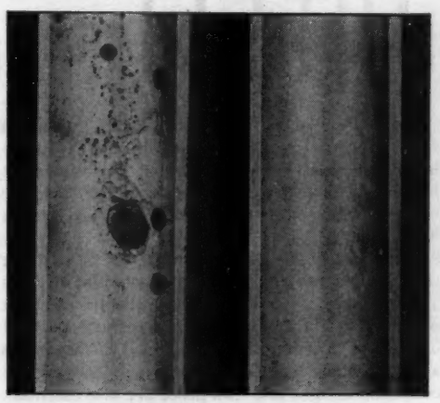

Fig. 4—Admiralty tube (left) and antimonial tube (right) taken from same heat exchanger bundle after operating under identical conditions. Note tube at right is not greatly harmed as result of dezincification which has destroyed the effectiveness of the tube at the left

Confirmation of Bengough and May's general conclusions and of Masing's results was obtained shortly after that time by extensive laboratory tests under carfully controlled conditions. The results show that the addition of arsenic to brass alloys definitely retards the dezincification. At the same time an effect not noticed by other workers was evident; namely, that the presence of arsenic may induce intercrystalline corrosion in the brass alloys.

Intercrystalline Corrosion

Intercrystalline corrosion is that form of corrosion in which penetration along the grain boundaries occurs. This should not be confused with embrittlement, which is purely a physical phenomenon and an entirely different thing. Intercrystalline corrosion is related to stress corrosion in that in both cases failure occurs along the crystal boundaries, but failure by intercrystalline corrosion may occur in the absence of appreciable stress. Fig. 1 shows the appearance under the microscope of intercrystalline attack. This sample was taken from an arsenical Admiralty tube which had failed in service.

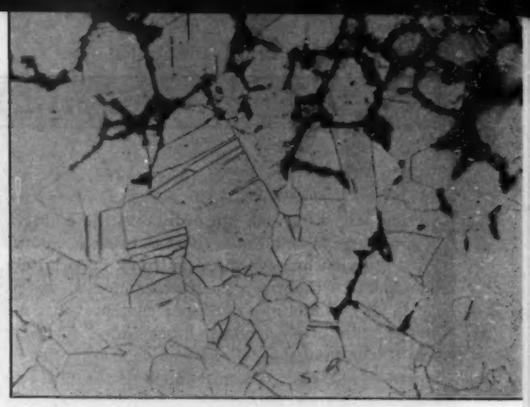

Fig. 1—Typical intercrystalline attack

In spite of the susceptibility to intercrystalline attack shown by the arsenical brasses, some condenser tubes of arsenical Admiralty and arsenical high brass were manufactured and placed in actual service in two of the larger refineries. The results confirmed those of the laboratory, and although dezincification did not occur, the tubes failed by intercrystalline cracking after short life. Several premature failures of arsenical Admiralty tubing have also occurred recently in scattered locations. Examination of these showed the cause to be intercrystalline attack.

Unlike arsenic, there had been no experimental work done on the effect of antimony on brasses up to a few years ago. In fact, Masing had expressed the opinion that antimony would not prevent de-

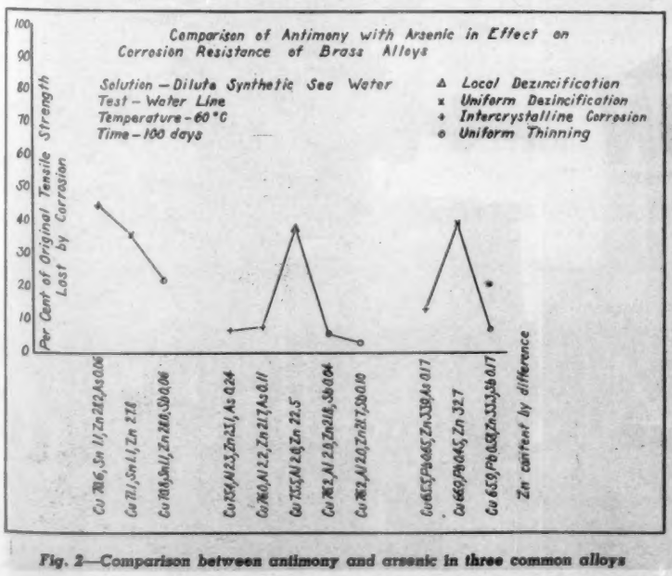
Comparison of Antimony with Arsenic in Effect on Corrosion Resistance of Brass Alloys
Solution – Dilute Synthetic Sea Water
Test – Water Line
Temperature – 60°C
Time – 100 days
Local Dezincification
Uniform Dezincification
Intercrystalline Corrosion
Uniform Thinning
Per Cent of Original Tensile Strength Lost by Corrosion
Zn content by difference

Fig. 2—Comparison between antimony and arsenic in three common alloys

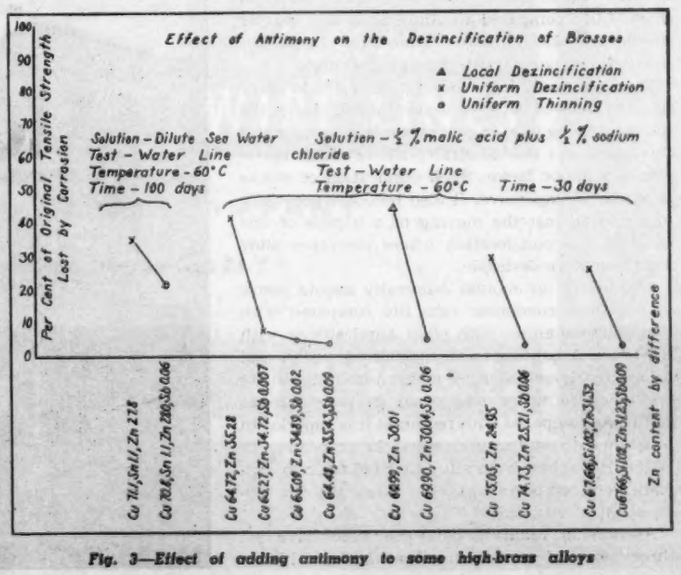
Effect of Antimony on the Dezincification of Brasses
Local Dezincification
Uniform Dezincification
Uniform Thinning
Solution – Dilute Sea Water
Test – Water Line
Temperature – 60°C
Time – 100 days
Solution – ½% malic acid plus ½% sodium chloride
Test – Water Line
Temperature – 60°C
Time – 30 days
Per Cent of Original Tensile Strength Lost by Corrosion
Zn content by difference

Fig. 3—Effect of adding antimony to some high-brass alloys

zincification, because it, unlike arsenic, does not lower the overpotential of brass to hydrogen evolution. It was found, however, that the addition of antimony in small quantities to brasses, including aluminum brasses and Admiralty, is definitely beneficial to their corrosion resistance to water. As small an amount as 0.02 per cent prevents dezincification of 65 per cent alpha brass. Even as small an addition as 0.007 per cent antimony greatly increases the corrosion resistance of the brass to water, although superficial dezincification still occurs. The effect of antimony on the dezincification of brasses is greater than that of arsenic, and what is of even more importance, intercrystalline corrosion does not occur.

Fig. 2 illustrates the comparison between antimony and arsenic in three common alloys. The corrosion tests and evaluation of results were made as described by Crampton and Mitchell.[5] It will be noted that in each case the effect of antimony on the corrosion resistance is greater than the effect of arsenic and that, whereas intercrystalline corrosion occurs with the arsenical alloys, the corresponding antimonal alloys suffer neither dezincification not intercrystalline corrosion.

Fig. 3 shows the effect of adding antimony to some of the high brass alloys. It is readily seen that small antimony additions reduce the total corrosion and overcome the objectionable dezincification form of attack.

In developing an alloy for condenser tube work to take advantage of these results, it was felt desirable to use a modification of Admiralty rather than of a lower copper content brass. Admiralty has a long record in all fields of condenser tubing uses and its tin content is beneficial to general corrosion resistance and to physical properties. Economy would probably not be realized by the slight reduction in copper content which might be possible. The advantage of antimonial Admiralty for oil refinery heat exchangers and condensers and for gasoline plant units is readily apparent when it is known that more than 50 per cent of the Admiralty condenser tubes in the oil industry fail by dezincification.

The use of red brass in the past few years has done a great deal to improve condenser tube life. There is no question whatever regarding the vast superiority of red brass to Admiralty in resistance to water. Many refineries have doubled the previous Admiralty life by using red brass. Unfortunately, however, red brass is less resistant than Admiralty to corrosion by sulfur and those sulfur compounds capable of forming copper sulfide as a corrosion product. Although the lesser resistance of red brass to sulfur does not always result in shorter life compared to Admiralty, the heavier sulfide corrosion product sometimes diminishes the thermal conductivity through the tubes.

Some refineries have found it desirable to carry tubes in stock of both red brass and Admiralty, the red brass being used in general for the severe water conditions and the Admiralty where sulfur corrosion is a major factor. Such duplication of stocks is of course expensive. It also becomes necessary to guard against the moving of a bundle of one alloy to a second location where the other alloy would be more desirable.

The use of antimonial Admiralty should result in improved condenser tube life compared with that obtained either with plain Admiralty or with red brass. According to all indications, antimonial Admiralty is superior to plain Admiralty in its resistance to water and equal in resistance to sulfur. As compared with red brass it is superior in resistance to sulfur and equal in resistance to water. Here then is an alloy that bids fair to supplant both red brass and plain Admiralty for condenser tube service.

Antimnoial Admiralty condenser tubes have had three years of service in oil refineries with no trouble of any sort reported as yet. Two comparisons have been obtained from operating heat exchanger bundles showing antimonial Admiralty to be free from dezincification under conditions causing the dezincification of Admiralty. Fig. 4 is of an Admiralty tube and an antimonial Admiralty removed from the same heat exchanger bundle. The Admiralty has suffered local dezincification whereas the antimonial Admiralty is in excellent condition with no evidence of appreciable corrosion.

It is firmly felt that the development of antimonial Admiralty is the most important one since the introduction of red brass to the industry a few years ago. Red brass definitely improved condenser tube life. It is expected that antimonial Admiralty will still further increase the life and efficiency of copper alloy tubes.

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2. J.I.M., 32, 81-269, (1924).
3. Wiss. Veroff. Siemens-Konzern, 10 (2), 35-54, (1931).
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SOIL ANALYSIS

(Continued from Page 85)

trations, while the southern transient high is associated with an area of low ethane concentrations, but is closely flanked by two areas of high ethane concentrations. These data have been interpreted as follows: The coincidence of high transient values and high ethane values is believed to be an indication of a surface or near-surface fault trace, upon which migration of ground waters and hydrocarbons has been or is taking place. The coincidence of a transient high with an ethane low, but with flanking ethane highs, is believed to be near-surface evidence for the existence of an underlying structure, the transient high being electrical evidence of the near-surface zone of mineralization, around the edges of which higher ethane concentrations are found. It is believed, were it not for the near-surface phenomena which gives rise to the transient anomaly, a maximum concentration of ethane would be found over the center of the accumulation below.

SAFETY — Fire Extinguishers Kept Close at Hand

Fire is one of the greatest hazards in the oil fields because practically all of the products handled are inflammable. Once it gets started it is very difficult to control as exploding tanks or bursting connections will scatter flames over a wide area.

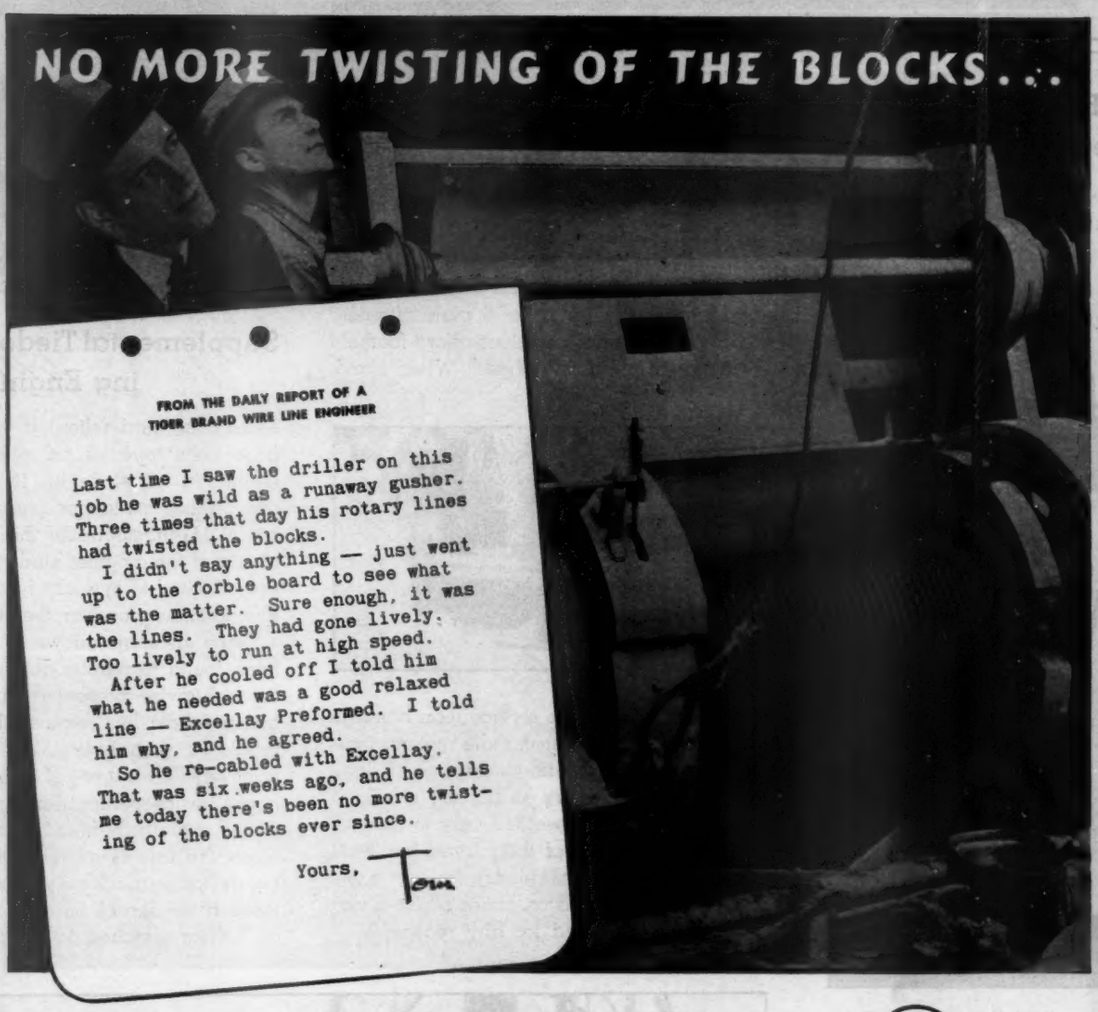
Every effort is generally made to keep down the fire hazards and to restrict potential fires to as small area as possible. Fire walls around tank batteries are a familiar and necessary part of oil storage. Keeping the area around the separator and flow lines free from debris, and keeping the connections tight and leak-proof are also essential.

No one knows when this dread enemy will strike and often serious fires are caused by minor ones that could have been put out in a moment had the facilities been at hand. Most large companies keep a small amount of fire extinguishing chemicals in each lease house and have a larger store at a central point.

The California company owning the properties in the photographs here shown go even further and keep fire extinguishers handy at the tank batteries and at the separators. Since much of the switcher's time is spent at either of these two points, it is only a moment's work to grab an extinguisher and put out any small fire that may start on the lease, or near the tank battery or separator.

The very sight of the fire extinguishers is a fire prevention device in itself as the extinguishers are a constant reminder to the switcher and other production employes that here is a constant danger to be avoided at all costs.

NO MORE TWISTING OF THE BLOCKS...



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So he re-cabled with Excellay. That was six weeks ago, and he tells me today there's been no more twisting of the blocks ever since.

Yours, Tom

NO one could be better qualified to help you get real performance out of wire lines than the American Tiger Brand Wire Line Engineers. These men know exactly what punishment rotary lines have to take in drilling. Putting the right type of lines where they will do the most good is no trick to them, because they spend most of their time doing just that.

The result: You get the most practical wire lines—and what's more you get them in a hurry since complete stocks are available throughout the oil fields. You get wire lines that will give you a full dollar's worth of performance for every dollar of cost.

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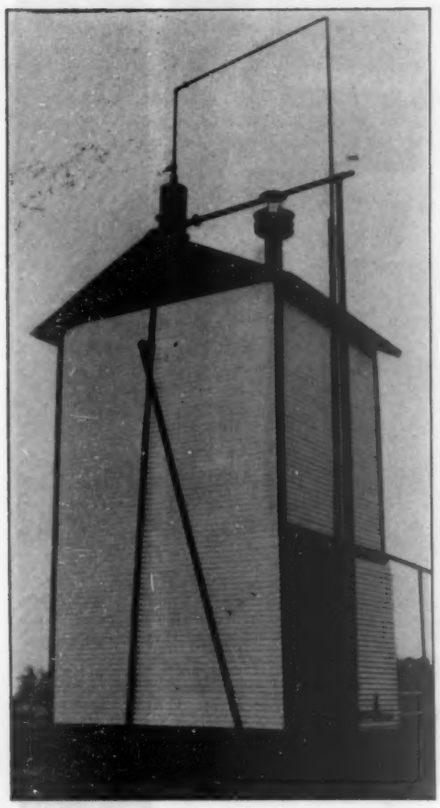
UNITED STATES STEEL

Operating Ideas

Housed Heater Turns Out Better Crude



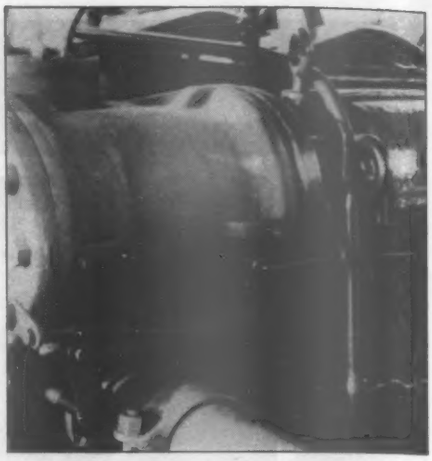
Characterized as a "tight" emulsion, Talco crude must be carefuly heated to just below the charring temperature to secure maximum separation of salt water from the oil. If this process be set early in the morning, midday heat will result in overheating; a sudden rain may chill the treater to such a point that a slug of imperfectly treated emulsion finds its way into the tank battery.

One producer houses the treating equipment in a light frame structure, covered with corrugated iron and painted with aluminum paint. Experience has proved that the heater thus enclosed maintains a uniform oil temperature without frequent regulation, and that an appreciable saving is effected through sheltering the unit.

A unique feature of this installation is the way in which the ladder has been built on the two flow lines; this eliminates attachments directly to the frame of the shelter.

Bumper Step Prevents Accident

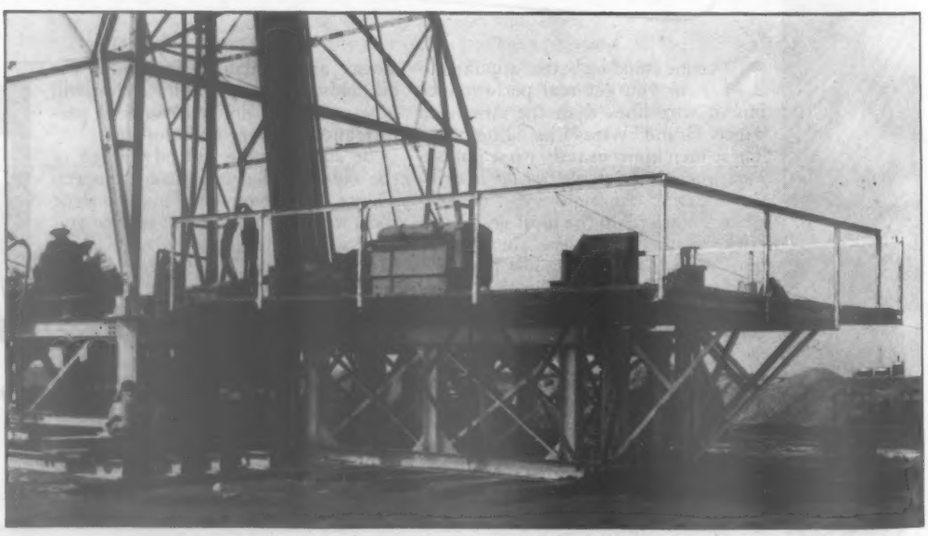
Almost without exception the rear bumpers of pick-up trucks used for service work by oil and gas companies are made to serve as step when material must be placed within or removed from the trucks. This narrow strip of steel, frequently mud-covered or plastered with oil and dirt from newly surfaced roads, presents a hazard to workers which has been successfully avoided by a gas company on its service units. Mounted on the bumper brackets and leveled with the top of the spring-bar is set a plate of safety tread steel; its raised sections afford foothold even to wet or muddy shoes. When standing on such a step the service man has firm footing, and is able to handle meters, tools or other equipment without the risk of damage to them or injury to himself should a foot slip. Being tack-welded only to bumper supports, the spring of the curved bar itself if left unrestricted to absorb minor traffic shocks, or to be used as buffer when a unit must be pushed for any reason.



Supplemental Tiedown for Drilling Engine

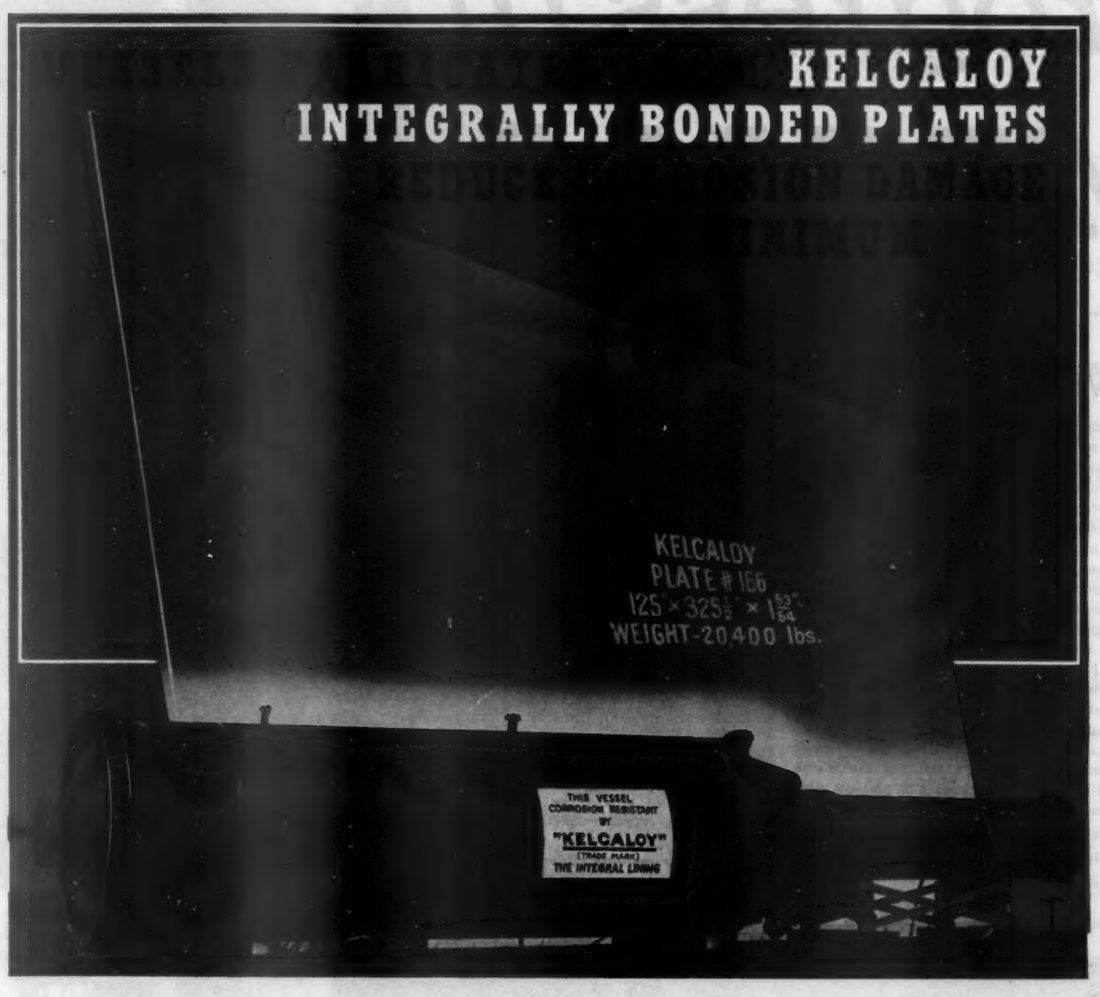
Reinforcing and relieving the usual engine base bolts relied upon to hold the drilling engine in its place on its skid mounting, one drilling contractor passes a jointed tie-rod of 1¼-in. steel over the bed casting just ahead of the cylinder stud ring. Turnbuckles are attached to eyebolts let into the concrete foundation supporting the rig.

Tying the engine down in this manner has been found to reduce appreciably the vibration otherwise present at high speeds and heavy loads; this reduces the possibility of breakage of vital parts. Welded eyes on the transverse member of the tie-down and hooks on the vertical links make it possible for the reinforcement to be easily taken down when the unit is moved; when rigging up, the device requires only a pair of 2-in. holes through the derrick floor for turnbuckles and links attached to the foundation.



Portable Substructure for Servicing Unit

In the Gulf Coast area of Texas a substructure is frequently left at the well after completion of drilling which is used for servicing units. Because of the time lost is elevating the unit to the substructure, one operator in the Corpus Christi district has designed a portable structure on which the unit is mounted. This is moved from well to well according to servicing requirements. An ample platform provides storage space for clean-out tools.



Kelcaloy plates are composed of two materials, a carbon steel base and an integrally bonded protective alloy. The bond is so intimate and complete that expansion, contraction, heat, creep or flexure between base metal and alloy can have no loosening effect on the alloy.

Refiners in this country and abroad have found Kelcaloy vessels a great aid in reducing the annual toll of equipment maintenance, operating delays and shut-downs occasioned by corrosion. Kelcaloy vessels can be fabricated in sizes limited only by shipping clearances.

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Progress in METALS

By W. L. NELSON

Welded Piping

One of the most detailed and complicated parts of the engineering of a refinery which involves the handling of fluids, is the piping system. Elaborate piping systems are involved in many installations such as power plants, refrigeration units, chemical plants and air-conditioning units, but certainly the maze of piping that is involved in a refinery or natural gasoline plant is among the most elaborate of such systems, and the enormous gas and oil transportation lines are among the largest tonnage installations. Thus, the oil industry is vitally interested in any methods by which piping systems can be simplified or improved. Although welding has been an accepted method of joining piping for many years, it has not attracted general attention until the past 3 or 4 years. During that time the technique of welding has been vastly improved and a number of special bends and fittings have been offered which greatly facilitate the installation of welded pipe. For overland gas and oil pipe lines, welding has predominated for over 10 years.

Among the obvious advantages of welded piping are:

1. The strength of the joints can be as great as the strength of the pipe itself. This often permits the use of lighter pipe.

2. Leaks do not develop at the joints because water or corrosive liquids do not accumulate at the joints.

3. The layout is simplified because almost any type of turn or branch is possible at no great extra expense.

4. In large pipe diameters, fittings fabricated from pipe are far cheaper than regular fittings.

5. Insulation can be applied cheaply.

6. Large sections of piping can be welded in the shop or on the ground and then erected and welded into position.

Obviously the success of all of the above items is dependent upon competent welders .This has, in the past, been a primary deterrent to the development of welded piping, but each year finds more and more welders who are available for such work until now it can be said that this objection is scarcely a legitimate one. Nevertheless, some prejudice against welding piping has arisen in the past because of a lack of competent workmen or careful management.

The close nesting of lines and simplification of the general layout is forcefully emphasized by the two photographs which are shown on this page.

The growing importance of welded piping is indicated by the number of companies that are offering so-called welding fittings. Many of the pipe, plumbing, and tube manufacturers distribute a complete line of welding fittings. Most of those fittings have beveled ends which when matched to a similarly beveled pipe, form a V-notch suitable for welding. A somewhat better but more expensive line of fittings is manufactured by forging and have sockets into which the end of the straight pipe is slipped. In addition to the general advantages already enumerated, these socket fittings have the following advantages:

1. The socket assures positive alignment before and after welding.

2. Weld "icicles" do not clog the interior of the pipe.

3. The internal bore of the fittings matches the I.D. of the pipe, thus avoiding friction loss or accumulation of liquids at the fittings.

The large picture illustrates the neatness of a welded fitting layout. The insert picture shows all-welded pipe in a refinery

•

Portable Servicing Unit for Oil Wells

The "Mobilhoist," illustrated here, was developed by the Cardwell Manufacturing Co., Inc., of Wichita, Kans., to fill the need for a portable general oil-well servicing unit, which in conjunction with various available accessories can be utilized for cleanout operations, for "drilling in" with cable tools, or for shallow rotary and core-drilling operations.

Like all equipment employed in the oil-production industry, these machines must be built to withstand

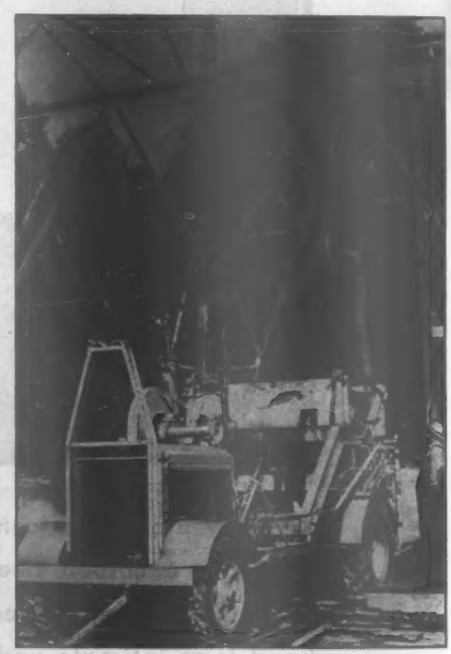

Photo courtesy International Nickel Co.

Mobilhoist "drilling in" rotary drilled well 3,100 ft., with cable tools

arduous service under all kinds of unfavorable conditions; hence a wide use of alloy steels was resorted to in the selection of constructional materials. The transmissions are made to Allsteel's own design, using S.A.E. 4820 (nickel-molybdenum) or 4320 (nickel-chromium-molybdenum) steels for gears and shafting. The motive power is furnished by Caterpillar Diesels, Waukesha, Hercules, or Buda gasoline engines, in all of which nickel alloy steels are also employed for several important parts.

Sprockets are machined and heat-treated from 6 to 8-in. round bars of S.A.E. 3140 nickel-chromium steel, which stands up excellently in operation. The same steel is employed for drive shafts and for smaller shafts throughout the machine. Oklahoma Steel Casting Co.'s "Tufwear" compositions are used for cast-steel parts. The jaw clutches are cast in Tufwear No. 3, a nickel-chromium-molybdenum steel, oil-quenched and tempered. Tufwear No. 2, a pearlitic nickel-manganese steel, is specified for sheaves and small castings. This steel is water-quenched and drawn at 600° F., providing a hardness of 400/450 Brinell, according to Nickel Steel Topics.

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THE SUPERIOR Vertical 2-Cycle Pumping Engines require so little attention that the pumper looks after more wells with less effort. Made so simple that any pumper can qualify to handle and adjust. Less than half as many parts as 4-cylinder high-speed engines.

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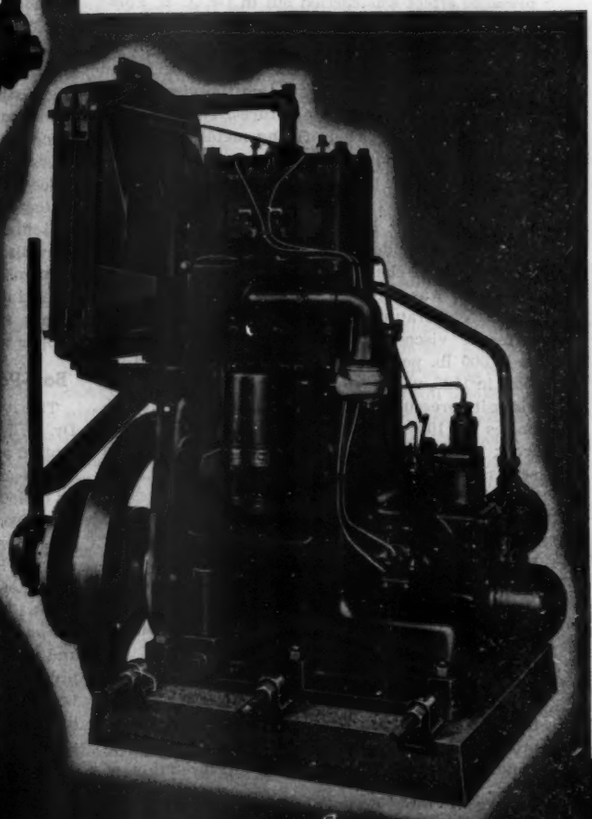

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Viscosity of Lubricating Oils at High Pressures

By C. M. LARSON
Sinclair Refining Co.*

IT has been stated that in a bearing under conditions which permit the complete separation of the rubbing surfaces, the only quality of the lubricant to consider is viscosity. With the bearing proportions and the rubbing speed of the surfaces fixed, the capacity and friction of the combination are determined by the viscosity of the lubricant constituting the separating film. The viscosity of a lubricant at normal atmospheric pressure is no indication of what its viscosity or hardness may be at elevated pressures met with in aircraft bearings at takeoff or in power dives, or encountered with roller bearings or with hypoid-gear-tooth pressures. Two lubricating oils having almost identical viscosity-temperature properties at one pressure may vary in viscosity manyfold at another pressure, well within the range of pressures met in service conditions. In reality, viscosity today is in a two-dimensional state; that is, rate of flow and temperature. The third dimension, that of pressure, is yet to be one of common usage. The viscosity of lubricating oils under pressure probably represents the most fruitful investigation to be carried out.

Viscosity, the author avers, is today in a two-dimensional state—rate of flow and temperature. A third dimension, that of pressure, is not yet in common usage, and warrants more research

Early Investigations

One of the first investigations (1914) of the pressure effect was carried out in Dr. A. E. Flower's ball and slanted tube. Dr. M. D. Hersey in 1916, using the ball and slanted tube, reported his findings. However, in 1926, Dr. P. W. Bridgman reported the effect of pressure on the viscosity of 43 pure liquids at two temperatures. Dr. Bridgman used the fall of a closely fitting metal plunger in a cylinder, the liquid being sheared through the space between the plunger and the cylinder. The apparatus was called a "sinker" viscosimeter. George Snyder and M. D. Hersey in 1932, through the use of capillaries under high inlet pressures, studied the appreciable change in viscosity (cc. per second). Castor oil was run at 0° C. and 20° C. The first three temperature determinations using three different viscosity-index oils and pressures up to 50,000 lb. per sq. in. were made by Dr. R. B. Dow in 1936, using "sinker" type viscosimeter. His viscosity-pressure data were tabulated in centipoises for 100° F., 130° F., and 210° F. In recent work (1938) supervised by Dr. Thomas Poulter, a series of six oils, two of 0 v.i., two of 70 v.i., and two of 100 v.i., were checked for viscosity-pressure curves at 100° F. at pressures from 50,000 to 160,000 lb. Dr. Poulter's apparatus consists of a cylinder having a capillary at the center and a piston at each end. A manganen wire coil at each end of the capillary tube was used to record pressure differences. A suitable bath is used to control the temperatures.

With the high-inlet-pressure capillary-tube method of Snyder and Hersey, the viscosity cannot be assumed constant throughout the tube, as the pressure drop is from one high at inlet of tube to atmospheric on discharge. The interpretation of Dr. Thomas Poulter's data is not as simple as it sounds, for one must take into account the rather large change in volume and the large heating effects as the oil passes through the capillary. For a capillary 0.020-in. in diameter and ⅛ in. in length, the difference in pressure at the two ends of the capillary may be more than 50,000 lb. The shape of the entrance of the capillary is of considerable importance in making a correct analysis of the data and the proper interpretation of same.

The ball and tube, the "sinker" viscosimeter, and the high-inlet-pressure capillary-tube apparatus cover the viscosity-pressure field from zero to 50,000 lb., whereas the capillary constriction in a cylinder with pistons at each end covers the field from 50,000 to 200,000 lb. per sq. in.

The calibration of pressure viscosimeters is not as simple as with A.S.T.M. Method D-445-38T for kinematic viscosity using suspended level viscosimeters. The calculations tax the minds of the leading mathematicians. For this calibration there is no oil standard. Water cannot be used, even though some have reported its viscosity constant with pressure. When water and lubricating oil are placed under pressure, the usual floating of oil on water is reversed at high pressures, and then, at still higher pressures, the oil on water position prevails. Finally ice is obtained with a melting point of 212° F. when the pressure is very high. Even lubricating oil under extreme pressures becomes sufficiently hard to shear off an 18-gage copper wire (Dr. Poulter).

Bow-Poulter Viscosity-Temperature Charts

The viscosity-pressure temperature results of Dr. R. B. Bow and Dr. Thomas C. Poulter, when plotted on A.S.T.M. D-341-37T viscosity-temperature charts are very enlightening. The Pennsylvania oil of 460 seconds at 100° F., when under 12,000-lb. pressure, showed the viscosity and viscosity-index equivalent to a Pennsylvania aircraft oil of 6,600 seconds Saybolt Universal viscosity at 100° F. and 120 seconds at 210°. The zero-v.i. 580-second S.U.v. oil at 100° F., when subjected to 4,000-lb. pressure per square inch, was higher in viscosity at 100° F. and 210° F. than the 100-v.i. oil under 6,000-lb. pressure, and at 6,000 lb. per sq. in. the zero-v.i. oil was higher in viscosity than 100-v.i. oil at 12,000 lb. per sq. in. In Dr. Poulter's work he found that under 100,000 lb. per sq. in. a 100-second S.U.v. at 100° F. (atmospheric pressure) Gulf Coast neutral was equal in viscosity to a Pennsylvania bright stock of 2,200 seconds at 100° F. and 150 seconds at 210° F., but the extreme-pressure viscosity of each was better than 180,000 seconds S.U.v. at 100° F. and 1,800 seconds S.U.v. at 210° F.

When it is considered that the pressure per square inch of aircraft engine bearings at takeoff varies for different engines from 2,500 to 3,500 lb. per sq. in., it is possible to have viscosity pressure effect increases from 6 to 12 per cent at the operating temperature, but when a plane is in a power dive and bearing pressures of 8,000 lb. per sq. in. are encountered, viscosity-pressure buildup of 25 per cent or higher is possible in the oil film. With hypoid-gear-tooth pressures of 100,000 lb., the viscosity-pressure build-up can be easily in the order of 10 times the original atmospheric viscosity at the temperature of operation. Many substances that are plastic and are considered lubricants at atmospheric pressures are abrasives, harder than steel. Roller bearings build up pressure of higher than 100,000 lb. ahead of rollers.

At 100,000 lb. per sq. in. the 100-second at 100° F. Gulf Coast oil loses 15 per cent of its volume, the 145-second at 100° F. Pennsylvania oil loses 17 per cent, whereas the Gulf Coast oil of 2,200 seconds at 100° F. loses 14 per cent, and the 2,200-second at 100° F. Pennsylvania oil has a loss of 19 per cent in volume. The Gulf Coast oils are harder to compress, yet show a greater viscosity-pressure increase than do the Pennsylvania oils, according to Dr. Poulter's findings.

Definition for Oiliness

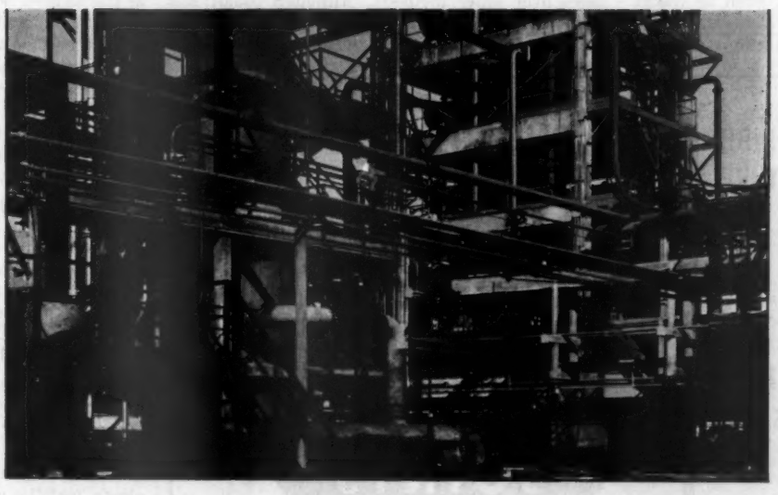
The definition for oiliness (Herschel, 1922) reads: "Various lubricants at the same temperature and same viscosity, difference in coefficient of friction under identical conditions, is the oiliness factor." Fatty oils have a much less buildup in pressure viscosity and according to the above definition would show a lower coefficient of friction if the atmospheric viscosity-temperature points of same viscosity were used in the determination. The same is true if the friction coefficient is plotted against ZN/P, where Z is the atmospheric viscosity instead of the pressure viscosity at the temperature of test.

Professor Bradford and V. Vandergrift (Institute of Mechanical Engineers), of Penn State, say: "The increase of viscosity with pressure is an important quality which if properly used may enable the production of bearings many times the capacity of present-day bearings. A lubricant for high-capacity bearing should have as large a pressure-viscosity effect as possible combined with a small temperature-viscosity effect." S. J. Needs (Institute of Mechanical Engineers), of the Kingsbury Machine Works, stated: "At loads of several thousand pounds per square inch the friction-coefficient curve reached a minimum and then began to increase with added load. High pressure in the bearing film often causes an increase in film viscosity."

The writer is deeply indebted to Dr. A. E. Flowers, of De Laval; Prof. H. A. Everett, of Penn State; Dr. Thomas C. Poulter, of Armour Institute; J. C. Geniesse, of the Atlantic Refining Co.; and the special research committee on lubrication of the A.S.M.E. for their valuable contributions.

*Presented before Technical Committee B, of A.S.T.M., at Atlantic City, N. J., June 28.

Suppression of Metal Catalysts in Gasoline Gum Formation



By F. B. DOWNING, R. G. CLARKSON, and C. J. PEDERSEN

E. I. du Pont de Nemours & Co.*

ABSTRACT

Gasoline is frequently contaminated with traces of metals, especially copper, which possess powerful prooxidant action. Antioxidants that are effective in retarding autooxidation and gum formation caused by peroxides are in efficient in counteracting the effect of such metal catalysts. Gasoline-soluble compounds capable of suppressing the prooxidant effect of metals have been found, and their use in conjunction with antioxidants is described.

The oxidation of gasoline is promoted by catalysts formed by the oxidation of some of its constituents. These autogenous catalysts, generally considered to be peroxides or moloxides, function through the mechanism of chain reactions and are responsible for the phenomenon termed autooxidation wherein deterioration proceeds very slowly at first but gradually accelerates until a maximum rate is reached.

Signal success has been achieved in recent years in the preservation of cracked gasoline by means of compounds termed gum inhibitors or gasoline antioxidants which produce beneficial results by retarding the autocatalytic process. A list of inhibitor patents compiled by Byers[3] and the works of Egloff and his collaborators[4] and Rogers and Voorhees[13] show that many different classes of organic compounds have been found to possess antioxidant properties.

The rate of oxidation of gasoline is also increased by extraneous catalysts. According to Thomas[14] crude petroleum contains heavy metals. Some of them, particularly copper and vanadium, have a powerful prooxidant action on gasoline. Gasoline is frequently exposed during handling and utilization to contact with harmful metals and their derivatives. Containers and conduits made of copper or its alloys are used for storage and transportation, and trouble arising from this source has been mentioned by Bridgeman.[2] The use of copper salts for the sweetening of gasoline is increasing and several methods have been patented by different investigators.[8 11 15 16] It is well recognized that copper-sweetened gasoline is susceptible to rapid discoloration,[15] gum formation, and development of malodorous products, unless the residual copper is removed, and therefore must be aftertreated for reduction of its copper content. The use of sodium carbonate,[6] sodium sulfide,[14 17] and zinc and ferrous sulfides[1] for eliminating most of the retained copper has been disclosed.

The benefits derived from the chemical treatment of gasoline containing high concentrations of copper are striking, but according to the published data the various modifications of this method do not always restore completely the antioxidant response of the copper-sweetened gasoline.

Since gasoline antioxidants themselves are oxidizable organic compounds, as shown by Egloff and his colleagues,[4] they are very susceptible to the prooxidant action of metals, even in traces. Hence, metal catalysts and antioxidants are antagonistic in action and normal inhibiting effects are greatly reduced in the presence of such catalysts. Although the required stability may be obtained by the use of sufficient antioxidant, it has been found that this second method of counteracting the effect of metals is an inefficient one.

There is, however, a third method of overcoming the effect of metals which consists in chemically suppressing their catalytic activity without removing them from the system by adding to the gasoline a suitable compound. This process not only renders the gasoline, in effect, free of metal catalysts, but by the proper adjustment of the concentration of the deactivator makes the gasoline reasonably immune to further contamination.

The present investigation was undertaken to find such reagents, which have been named metal deactivators, and to determine whether their use in conjunction with antioxidants possess advantages over other methods. Although cobalt and vanadium also exert powerful catalytic action, gasoline is most likely to come in contact with copper and its compounds. In this paper, therefore, major attention is devoted to the suppression of the catalytic activity of copper. Since this method of preserving gasoline is different from that in general use today, considerable stress is laid upon the distinct functions of true gasoline antioxidants and metal deactivators.

The relative stability of gasoline was measured by means of the induction periods as determined by the accelerated method by Voorhees and Eisinger.[18] The gum content was determined by the A.S.T.M. air-jet method. The various chemicals were added to the gasoline as stock solutions of such strengths that 0.5 cc. per 100 cc. of gasoline gave the desired concentrations in weight per cents or parts per million. Redistilled benzene was used as the solvent. Soluble copper was added as cupric oleate, and metallic copper in the form of foil whose surface had been cleaned by plunging it while hot into pure methanol. The metal deactivator was always added to the gasoline before the copper in order to prevent the destruction of the antioxidant.

Due to the lack of a constant supply of gasoline of relatively uniform properties, samples obtained from various sources were used for these tests. In every case, however, the gasoline as received was completely refined but contained no added chemicals. The induction period and antioxidant-response characteristics of each gasoline are given in the tables. All exceptions to the above conditions are indicated in the text.

The magnitude of the catalytic effect is dependent upon the form of copper as well as upon its concentration or the area of contact. The following substances were found to have a readily measurable prooxidant effect: cupric chloride and oleate, metallic copper, cuprous and cupric oxides

*Presented before Baltimore meeting of the American Chemical Society.

coloration,[20] gum formation, and development of malodorous products, unless the residual copper is removed, and therefore must be aftertreated for reduction of its copper content. The use of sodium carbonate,[6] sodium sulfide,[14 17] and zinc and ferrous sulfides[1] for eliminating most of the retained copper has been discolored.

The benefits derived from the chemical treatment of gasoline containing high concentrations of copper are striking, but according to the published data the various modifications of this method do not always restore completely the antioxidant response of the copper-sweetened gasoline. This method, moreover, cannot protect the gasoline from further contamination.

Since gasoline antioxidants themselves are oxidizable organic compounds, as shown by Egloff and his colleagues,[9] they are very susceptible to the prooxidant action of metals, even in traces. Hence, metal catalysts and antioxidants are antagonistic in action and normal inhibiting effects are greatly reduced in the presence of such catalysts. Although the required stability may be obtained by the use of sufficient antioxidant, it has been found that this second method of counteracting the effect of metals is an inefficient one.

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Methods of Testing

The relative stability of gasoline was measured by means of the induction periods as determined by the accelerated method by Voorhees and Eisinger.[19] The gum content was determined by the A.S.T.M. air-jet method. The various chemicals were added to the gasoline as stock solutions of such strengths that 0.5 cc. per 100 cc. of gasoline gave the desired concentrations in weight per cents or parts per million. Redistilled benzene was used as the solvent. Soluble copper was added as cupric oleate, and metallic copper in the form of foil whose surface had been cleaned by plunging it while hot into pure methanol. The metal deactivator was always added to the gasoline before the copper in order to prevent the destruction of the antioxidant.

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The Catalytic Effect of Copper

The magnitude of the catalytic effect is dependent upon the form of copper as well as upon its concentration or the area of contact. The following substances were found to have a readily measurable prooxidant effect: cupric chloride and oleate, metallic copper, cuprous and cupric oxides and cupric sulfide, arranged in decreasing order of activity. Even babbitt metal and aluminum alloys containing copper decreased the induction period of gasoline.

The presence of 0.1 p.p.m. of soluble copper was detectable in a sample of gasoline, while 1 p.p.m. decreased the induction period from 110 to 30 minutes.

The harmful effect of dissolved copper on gasoline inhibited with several different antioxidants is shown in Table 1.

TABLE 1—THE EFFECT OF DISSOLVED COPPER

No.	Antioxidant—	Wt. % conc.	Induction period in min.	
			No added Cu	1 p.p.m. Cu
1	None		110	30
2	Hardwood-tar distillate	0.025	260	60
3	Hardwood-tar distillate	0.10		230
4	Catechol	0.008	270	80
5	Catechol	0.025		270
6	Alpha-naphthol	0.005	270	40
7	Alpha-naphthol	0.0175		270
8	*p*-Benzylaminophenol	0.001	270	45
9	*p*-Benzylaminophenol	0.0075	...	110

It will be noted that the gasoline contaminated with 1 p.p.m. of copper required 4.0 times the quantity of hardwood-tar distillate, 3.1 times of catechol, 3.5 times of α-naphthol and more than 7.5 times of *p*-benzylaminophenol as the uncontaminated gasoline to give the same induction periods. On another basis, the prooxidant effect of 1 p.p.m. of copper in the gasoline inhibited with the different antioxidants to 270 minutes' induction period could only be overcome by the further addition of 7.250 p.p.m. of hardwood-tar distillate, 170 parts of catechol, and 125 parts of α-naphthol, while it could not be overcome by the addition of 75 parts of *p*-benzylaminophenol.

It is evident that the inhibiting effect of antioxidants is decreased by the copper and that this method of counteracting the action of the catalyst is not efficient. Even if the cost of additional antioxidant required be justified, other difficulties might arise due to the introduction of too much nonvolatile matter into gasoline.

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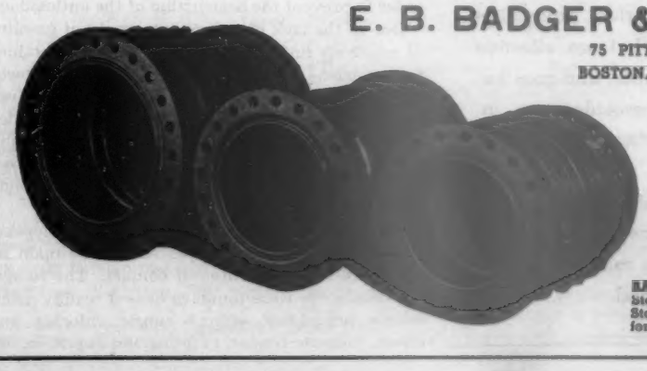

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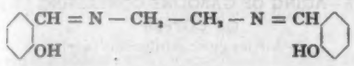
The data presented in Table 1 must not be taken, however, to establish a fixed relative order of susceptibility of the antioxidants to copper. It has been found that the effect of copper varies greatly in different samples of gasoline.

The Action of Deactivators

The deactivator whose action is described in this paper is disalicylalethylenediamine, obtained by condensing 2 mols of salicylaldehyde with a mol of ethylenediamine. Its structural formula is:



It melts at 127° C. and it is thermally stable above its melting point. Unlike antioxidants, it is not oxidized by air and even in solution can be kept for years without undergoing deterioration. It is soluble in gasoline and other organic solvents and resists extraction by water. It has no deleterious effect on other gasoline addition agents, such as dyes and tetraethyl lead.

The action of a metal deactivator on a copper contaminated gasoline inhibited with hardwood-tar distillate and *p*-benzylaminophenol, the least and the most efficient antioxidants in Table 1, is shown in Table 2.

TABLE 2—THE EFFECT OF COPPER DEACTIVATOR

No.	Antioxidant—	Conc. wt. %	Induction pd. in min. No added Cu	1 p.p.m. Cu	1 p.p.m. Cu+0.001 % deactivator
1	None		110	30	110
2	Hardwood-tar distillate	0.015	200	50	300
3	*p*-Benzylamino-phenol	0.001	270	45	430

It will be observed that 0.001 per cent or 10 p.p.m. of copper deactivator completely eliminated the effect of copper. In fact, the response of the antioxidants was higher in the presence of the deactivator plus copper than in the absence of added copper, compare Columns 4 and 6. This point will be discussed later in detail.

Numerous tests have demonstrated that the deactivator will at least negative the effect of copper even if it will not always cause the increase shown above. It was also found that all gasoline antioxidants, such as the xylenols, catechol, alpha-naphthol, pyrogallol, *p*-phenylenediamine, and the different derivatives of *p*-aminophenol, will behave in the same manner. Hence, in the following portion *p*-benzylaminophenol will represent the gasoline antioxidants.

The Different Behavior of Antioxidants and Deactivators

The behavior of a copper deactivator is contrasted with that of an antioxidant in Table 3. The gasoline contained no added copper.

TABLE 3—THE DIFFERENT BEHAVIOR OF ANTIOXIDANT AND DEACTIVATOR

No.	Type of compound—	Conc. wt. %	Induction period, minutes
1	None		80
2	Antioxidant (*p*-benzylamino-phenol)	0.001	230
3	Antioxidant (*p*-benzylamino-phenol	0.0015	330
4	Antioxidant (*p*-benzylamino-phenol	0.002	470
5	Metal deactivator (disalicylal-ethylenediamine)	0.005	80
6	Metal deactivator (disalicylal-ethylenediamine)	0.01	80

It will be noted that whereas the increase in the induction period is nearly proportional to the concentration of the antioxidant as reported by Rogers and Voorhees,[3] the induction period is not increased by successive additions of the deactivator. The deactivator, therefore, does not act as a true antioxidant.

The question now arises as how to determine the desired concentration of the deactivator for a given content of copper. Data given in Table 4 show how this can be accomplished. The gasoline used for the tests had an induction period of 100 minutes, which was increased to 280 minutes by the addition of 0.002 per cent *p*-benzylaminophenol, and decreased from this to 5 minutes by the further addition of 1 p.p.m. of dissolved copper.

TABLE 4—THE CONCENTRATION EFFECT OF DEACTIVATOR ON GASOLINE CONTAINING 0.002 PER CENT p-BENZYLAMINOPHENOL AND 1 P.P.M. DISSOLVED COPPER

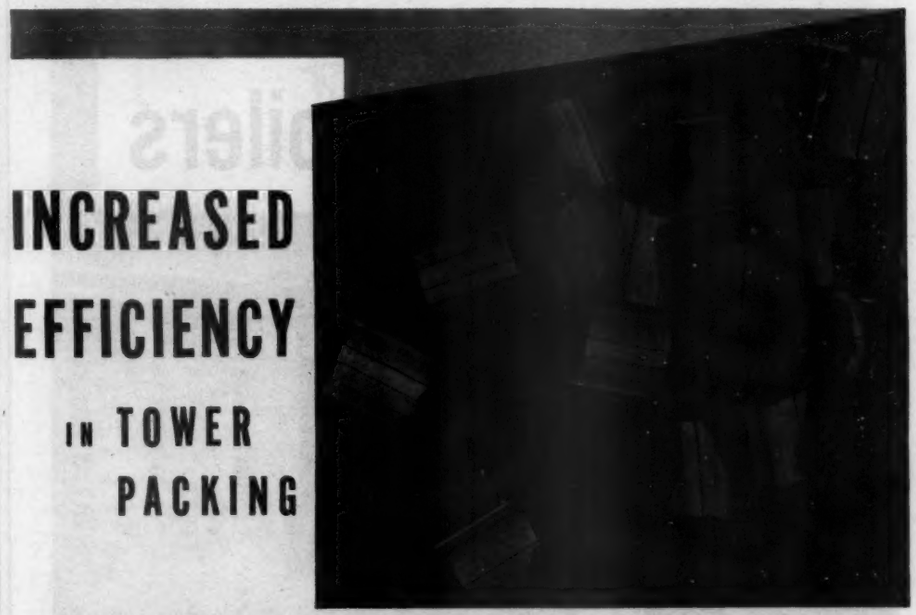
No.	Conc. of deactivator, wt. %—	Induction period, minutes
1	None	5
2	0.0002	20
3	0.0005	260
4	0.001	290
5	0.005	310

Since the induction period of the gasoline containing no added copper and inhibited with 0.002 per cent *p*-benzylaminophenol was 280 minutes, slightly more than 0.0005 per cent or 5 p.p.m. of the deactivator was required to suppress the catalytic activity of 1 p.p.m. of copper. In the presence of this concentration of copper, 0.016 per cent *p*-benzylaminophenol gave an induction period of only 120 minutes. Hence, under these experimental conditions the deactivator was more than 30 times as effective as the antioxidant in raising the induction period.

It will be noted that very little advantage was gained by adding more than 0.0005 per cent of the deactivator. The concentration curve obtained in this case, instead of being rectilinear as for the antioxidant, is logistic, and the effects of the antioxidant and the deactivator are synergistic.

It has been determined that 5 to 10 parts by weight of these deactivators are required to suppress the catalytic activity of one part of soluble copper irrespective of the concentration of copper, whereas 40 to 1,000 parts of the antioxidants, depending upon their efficiency, are necessary to perform the same task in the range of 1 to 10 p.p.m. of copper.

Since the deterioration of gasoline is judged practically by the quantity of gum formed rather



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than by the rate of oxygen absorption, a number of storage tests were made. The gasoline was stored at room temperature in stoppered glass bottles which were periodically opened to the air. The development of gum was followed by means of the A.S.T.M. air-jet method. According to Rogers, Bussies and Ward gasoline is considered to be unfit for safe use when it contains 10 mg. per 100 cc. of preformed gum.[13]

The results given in Table 5 were obtained with a sample of gasoline having an induction period of 100 minutes and initially containing 1.0 mg. per 100 cc. of gum. The inhibited gasoline was contaminated with 1 p.p.m. of soluble copper.

The experiments were discontinued at this point. It will be noted that the sample inhibited with *p*-benzylaminophenol alone became unfit for use within 6 days while that containing 0.001 per cent deactivator in addition was still satisfactory at the end of 182 days.

The catalytic effect of metallic copper on gasoline was also examined. Very severe exposure conditions were obtained by storing a quart of inhibited gasoline in contact with a piece of copper having a surface area of 3.15 sq. in. The gasoline had an initial induction period of 250 minutes and an air-jet gum of 2.7 mg. per 100 cc.

It will be noted that the gasoline inhibited with 0.003 per cent *p*-benzylaminophenol was unfit for use within 1 to 5 days while that containing 0.003 per cent of the combination was satisfactory for about 55 days.

Storage in contact with metallic copper is considered severe because, although only the surface can function catalytically at any instant, the bulk of it constitutes a reservoir of available copper.

The Presence of Copper in Refinery Gasoline

It is possible that with extraordinary precaution gasoline can be preserved from contact with catalytic metals during the entire course of its handling and utilization. Indications were obtained during this investigation, however, that gasoline samples from various sources frequently contained metal catalysts when no possibility of contamination during handling had existed. Spectroscopic analysis of one of these samples demonstrated the presence of a trace of copper. It appears that the metal content of crude petroleum[18] is not always completely removed by refining.

TABLE 5—AGING OF GASOLINE CONTAINING 1 P.P.M. OF COPPER

Days of aging	Air-jet gum: milligrams per 100 cc. 0.0025% *p*-benzylaminophenol	0.0025% *p*-benzylaminophenol + 0.001% metal deactivator
0	1.5	1.5
6	13.3	2.5
14	14.0	2.5
26	56	1.5
80	More than 208 (gum-deposited)	1.2
133	More than 313 (gum-deposited)	3.4
182	More than 406 (gum-deposited)	4.4

TABLE 6—AGING OF GASOLINE IN CONTACT WITH METALLIC COPPER

Days of aging	Air-jet gum: mg./100 cc. 0.003% *p*-benzylaminophenol	0.00225% *p*-benzylaminophenol + 0.00075% deactivator
1	9.3	3.7
5	11.9	3.9
19	22.0	5.5
26	27.3	6.4
55	103	10.6
76	169	17.4

The results obtained by the addition of a metal deactivator to such a gasoline are shown in Table 7.

TABLE 7—GASOLINE CONTAINING NO ADDED COPPER

No.	Conc. of *p*-benzylaminophenol, wt. %	Induct. pd. in min. No deactivator	Induct. pd. in min. 0.000125% deactivator
1	None	100	110
2	0.001	190	310
3	0.002	310	...

It will be observed that the addition of 0.000125 per cent of the deactivator increased the induction period of the gasoline by only 10 minutes, while that of the gasoline inhibited with 0.001 per cent antioxidant was raised by 120 minutes, an amount equal to that obtained by the further addition of 0.001 per cent *p*-benzylaminophenol. Under these particular conditions one part by weight of the deactivator was equivalent to eight parts of the antioxidant. This does not mean, however, that one part of the deactivator will continue to replace eight parts of the antioxidant, because, as shown previously, once enough deactivator has been added to poison the metal catalysts the addition of further quantities will have no effect on the induction period, although it will afford greater protection to the gasoline against future contamination.

Tests made on about 60 samples of gasoline from different parts of the United States showed that the antioxidant response of many of them was increased by the addition of a metal deactivator. In some cases the increase was too slight to justify the addition, but in others the antioxidant efficiency was multiplied by 2 to 8 times.

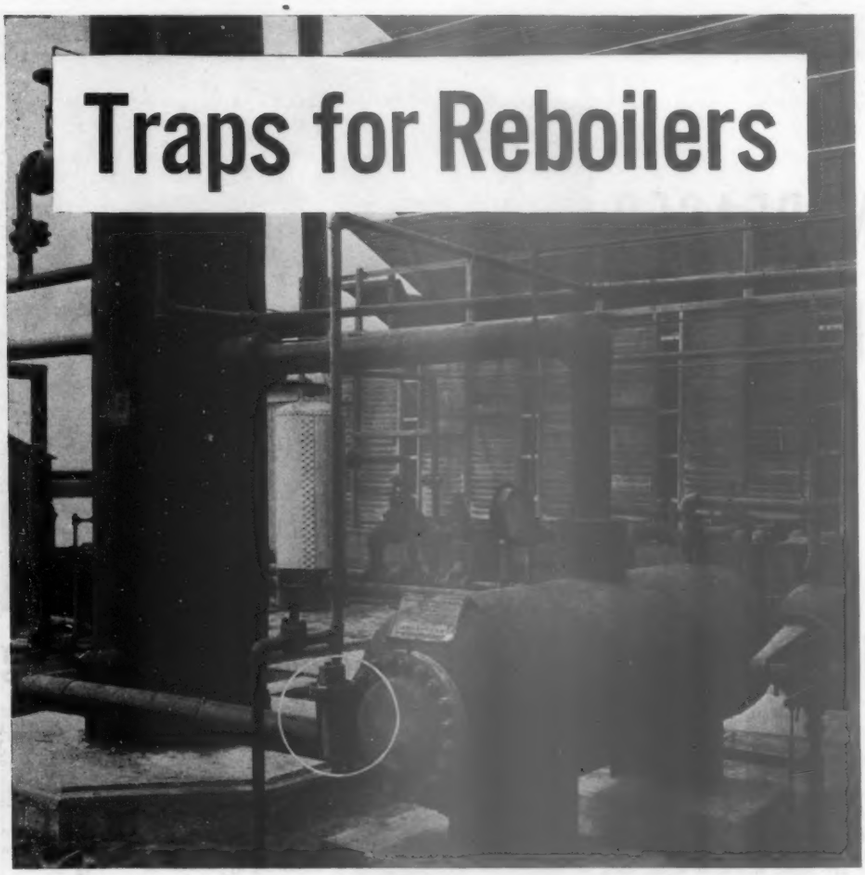
The increase in the induction period caused by the deactivator could be correlated to the amount of gum formed during the test. This is illustrated by the data in Table 8.

TABLE 8—CORRELATION OF INDUCTION PERIOD AND GUM FORMATION

No.	Conc. *p*-benzylaminophenol, wt. %	No deactivator added: Ind. pd.	No deactivator added: Gum: mg./100 cc.	0.000125 % Deactivator added: Ind. pd.	0.000125 % Deactivator added: Gum: mg./100 cc.
1	None	100	42	110	48
2	0.001	190	60	310	32
3	0.002	310	46	...	..

The same gasoline was used as for the tests shown in Table 7. It contained 1.1 mg. of preformed gum. The instant the end of the induction period was reached, the flask was cooled as rapidly as possible, the gasoline was removed and its gum content determined.

It will be noted that the quantities of gum



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formed during the accelerated tests were about the same irrespective of the induction period. The slight differences were well within the limits of experimental error since the tests were stopped when the rate of gum formation was increasing very rapidly. It was found that the gum content of this particular sample of gasoline was just about 10 mg. per 100 cc. when it had been heated for 85 per cent of the total duration of the induction period, independent of the length of the latter. Since the induction-period measurements are used for the determination of relative stability, the amount of gum present at the end of the induction period is of no importance as long as it is constant as shown above.

There are also some gasolines whose induction periods are increased to a considerable extent by the addition of a copper deactivator alone. The results obtained with an example of such a gasoline are shown in Table 9.

TABLE 9—EFFECT OF DEACTIVATOR ON A RESPONSIVE UNSTABILIZED GASOLINE

No.	Concentration of copper deactivator, wt. %—	Induction period, minutes
1	None	270
2	0.000125	340
3	0.001	430

It will be noted that while the addition of the first 0.000125 per cent copper deactivator increased the induction period by 70 minutes, the further addition of 0.000875 per cent increased it only 90 minutes more, indicating that a concentration lying between 0.000125 and 0.001 per cent was required to deactivate the metal catalysts.

It appears that gasolines possessing such excellent response to a copper deactivator alone are relatively rare. Of the 60 different samples of gasoline tested, only three behaved in this manner, and of these two had been copper-sweetened.

Oxygen-Bomb Test Results

Metal deactivators have not been tested extensively by the accelerated oxygen-bomb methods described by various investigators including Hunn, Fischer, and Blackwood[7] and Egloff and his coworkers.[5]

The results of the few tests indicated that the suppression of the catalytic effect of copper at a relatively high concentration, 1 p.p.m., could be readily determined as shown in Table 10. Although the gasoline was inhibited with *p*-benzylaminophenol, the properties of the gasoline and the dosage of the antioxidant were not known.

TABLE 10—THE EFFECT OF DEACTIVATOR IN THE OXYGEN-BOMB TEST

Antioxidant—	No Cu added	Induct. pd. in min. 1.0 p.p.m. Cu	1.0 p.p.m. Cu + 0.005% deactivator
p-Benzylaminophenol	195	60	180

The advantage obtained, however, by the addition of a metal deactivator to a gasoline containing only a trace of copper was scarcely detectable. In view of the correlation found in the Voorhees test between gum formation and induction-period increase, and also the effects found in storage at ordinary temperatures, accelerated oxygen-bomb results are believed to be seriously affected by the test conditions. Their interpretation with respect to storage life must therefore be approached with considerable caution.

Other Metals

Tests made with cracked gasoline containing 1 to 4 p.p.m. of different metals dissolved in it have shown that cobalt and vanadium are also powerful prooxidants. Iron was found to be less harmful, and lead, manganese, nickel and tin were only slightly catalytic. Cobalt does not deserve much attention, since the possibility of its introduction into petroleum products is remote. Vanadium, on the other hand, occurs in fairly high concentrations in crude petroleum from certain parts of the world,[18] and gasoline produced from it may contain traces of this metal.

The effect of different concentrations of vanadium on gasoline inhibited with 0.002 per cent *p*-benzylaminophenol is shown in Table 11, as well as its inactivation by the deactivator. The induction period of the original gasoline was 160 minutes.

The deactivator of 0.005 per cent was sufficient to suppress the catalytic effect of 1 p.p.m. of vanadium but no of 4 p.p.m.

TABLE 11—THE EFFECT OF DISSOLVED VANADIUM GASOLINE INHIBITED WITH 0.002 PER CENT p-BENZYLAMINOPHENOL

No.	Conc. deactivator, wt. %—	Induction period in min. No added V	1 p.p.m. V	4 p.p.m. V
1	None	330	180	30
2	0.005	460	390	140

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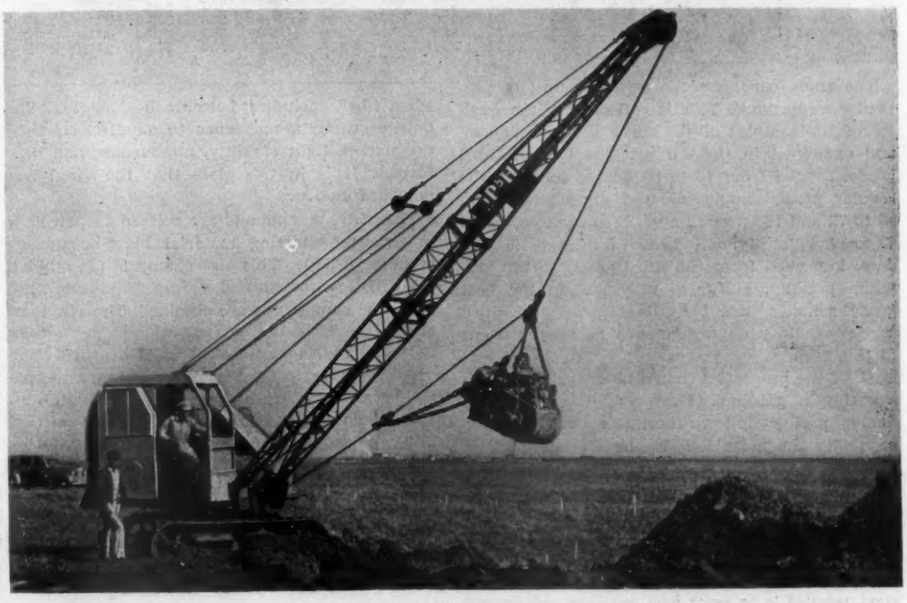

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QUESTIONS ON TECHNOLOGY

By Charles K. Francis, Ph. D., Technical Editor

Quality Conforms With Price for Trade Grades of Motor Gasoline

What is the main distinguishing feature, or combination of features, of the three grades of gasoline now sold at filling stations?—H. G. T.

An examination of the analysis of gasolines that have been sold throughout the United States reveals that the several grades—premium, regular and third grade—vary in each of the distinguishing properties. The summary of the Bureau of Mines survey of the gasoline sold for motor use during the summer season of 1938 is shown in the table.

MOTOR-GASOLINE SURVEY, SUMMER 1938

Test—	Premium-price gasolines				Regular-price gasolines				Third-grade gasolines			
	Min.	Range of 90%		Max.	Min.	Range of 90%		Max.	Min.	Range of 90%		Max.
Gravity, degrees A.P.I.	51.7	57.0	63.5	66.2	55.6	56.9	62.1	63.1	54.3	55.8	63.7	67.1
Sulfur content, %	.007	.020	.089	.139	.01	.026	.201	.33	.009	.018	.15	.19
Reid vapor pressure, lb.	2.9	5.5	8.2	9.5	5.5	6.4	8.8	10.2	4.0	5.4	8.6	10.6
A.S.T.M. octane number	72.4	76.0	81.3	83.0	65.2	69.1	72.0	73.1	46.2	50.5	66.0	69.5
Initial boiling point, °F.	84	95	114	122	88	93	108	113	82	90	110	118
10% recovered	126	137	158	164	122	136	155	167	131	137	165	184
20% recovered	152	161	185	195	154	162	188	204	148	162	198	211
30% recovered	171	182	210	216	174	185	216	225	168	186	228	245
50% recovered	202	214	256	267	222	230	262	281	207	230	277	282
70% recovered	239	245	303	309	266	277	306	320	236	268	326	333
90% recovered	282	292	365	375	322	337	369	390	303	316	387	392
Endpoint	326	353	415	427	354	388	416	436	356	373	427	449
Distillation loss	0	.8	2.1	3.3	.5	1.0	2.4	5.2	.8	1.0	2.5	3.1

The trade considers the octane rating of particular importance. This is reflected in the quality of the samples of the three grades collected and examined in the survey. The lowest, third grade, ranged from 46 to 69 octane number, the regular grade samples showed a variation from 65 to 72 and the premium grade specimens tested 72 to 83. Volatility, as indicated by the distillation data, improved from the third grade to the premium product. Sulfur is very low in the best grade samples, too, but the regular and third grade gasolines do not appear to be consistent in this respect.

All of the properties should be considered when selecting a gasoline. However, in general the quality product follows the market grading, consequently the price follows the market grading.

Petroleum Gases Furnish Material Aiding in Manufacturing Silk

Could you furnish an explanation about the substance vinyl, reported to be made from petroleum refinery gas or possibly natural gas, which is used in the manufacture of yarn? This is said to be a synthetic product, similar to silk.—R. T. D.

The chemist has been engaged for many years in the effort to develop methods whereby two or more small molecules combine to make new substances having larger molecular weights. Starches and sugars have been made by methods of this type. Some of the compounds formed have been true polymers of the starting compound but frequently they are not. However, in a general way such "building-up reactions" are known as polymerization processes. Coal tar has been the foundation material for the preparation of many new products, such as dyes, medical preparations, perfumes, etc. In a similar way many useful chemicals are being derived from petroleum; the preparation of vinyl compounds is an example.

There are several methods which have been devised for the manufacture of silk yarns by syntheses. The starting substance is cotton, wood, or other cellulose stock, which is put into solution and then spun into thread by passing the solution through suitable orifices into a hardening medium. The properties of all synthetic yarns are not identical, for some are soluble in certain substances while others are not. Several require considerable care when laundering because they are especially sensitive toward alkaline preparations. Research is always being conducted with the object of discovering a method of manufacture which will produce a yarn of superior quality.

Much success has been achieved by adding certain chemical compounds to the cellulose solution, which act to improve the properties of the finished fiber, including better adhesion, flexibility, tensile strength, resistance to alkalies, color impregnation, light stability, nonburning and other factors. It is in this class that the vinyl compounds function.

The vinyl compounds are related to petroleum in that the starting material may be the gas ethane, (C_2H_6). This is changed to ethylene (CH_2CH_2), an unsaturated hydrocarbon, from which the vinyl compounds are obtained. The vinyl general formula is $CH_2{=}CH{\cdot}R$, the chloride being CH_2CHCl and the acetate $CH_2{=}CH{\cdot}OOC{\cdot}CH_3$. Polyvinyl chloride is hard, water resistant, nonflammable, and chemically inert with poor solubility, low mechanical strength, poor light and heat stability, and poor working properties. Polyvinyl acetate has those properties which the chloride lacks but is itself deficient in the good qualities of the chloride. Products of good quality are produced by polymerizing mixtures of the two.

The products termed "vinylites" are believed to consist of long chain molecules containing both chloride and acetate residues. Resins containing about 85 per cent chloride are most generally used.

References: Curme, Jr., and Douglas, Resinous Derivatives of Vinyl Alcohol, Ind. Eng. Chem., 28, 1123. 1936. Ellis, Chemistry of Synthetic Resins, Vol. 2, p. 1016.

Physical and Chemical Laws and Principles Used in the Petroleum Industry

PERFECT GAS EQUATION

(Laws of Boyle and Gay-Lussac combined)

The general equation governing the volume for gases is a combination of the temperature law of Boyle and the pressure law of Gay-Lussac represented by

$$PV = NRT$$

where P is the pressure, V the volume, N the mols of the gas, T the temperature absolute, and R is a constant which varies according to the expression of P, V and T. If T is in degrees C. abs., P atmospheric pressure and V liters, then R will have a value of 0.08207.

The volume of the gram molecule of a gas at 0° C. (273° abs.) and one atmosphere pressure is calculated from

$$1 \times V = 1 \times 0.08207 \times 273$$

$$V = 22.4 \text{ liters.}$$

The volume in cubic feet (359 at 0° C.) for the pound mol may be calculated in a similar manner.

L-3 Method for Determination of Knock Rating of Gasoline

I would appreciate an explanation of the L-3 method of determining the octane rating of gasoline and basis for converting the octane number determined by the L-3 method to C.F.R. motor method number.—E. V. L.

The standard method for determining the octane rating of motor gasoline is now known as the A.S.T.M. method, which is subject to revision by the American Society for Testing Materials. It is based on the apparatus and procedure designated by the Cooperative Fuel Research Committee commonly called the C.F.R. method. The L-3 method includes slight modifications in the details which have been adopted by the Ethyl Gasoline Corp. for its inspections, as follows:

L-3 KNOCK-TESTING CONDITIONS

Speed ..... 900 r.p.m.
Intake temperature ..... 260° F.
Spark advance—16° before top dead center at 5-1 compression ratio.
Knock intensity—65 octane number at 5.5 to 1.

The same engine is used, the "C.F.R. Engine," and to be operated in all respects, with the exceptions above listed. The L-3 and A.S.T.M. results cannot be converted one to the other.

Reference: Tentative Method of Test for Knock Characteristics of Motor Fuels, A.S.T.M. Standards on Petroleum Products, p. 153, 1938.

Quantity of Petroleum Gases for Making Chemicals

Information is desired regarding the consumption of liquefied petroleum gases for the manufacture of chemicals. Have you any data on this?—D. R. T.

A recent report of the U. S. Bureau of Mines contains a statement covering the use of liquefied petroleum gases for the manufacture of chemicals as follows:

The volume of liquefied petroleum gases credited in 1938 to chemical manufacturing was 32,299,000 gal., an increase of 21 per cent over the 1937 consumption of 26,792,000 gal.

Propane-butane mixtures are important as solvents and raw material to chemical manufacturers, consequently they buy more than half the market production. The demand for propane-butane mixtures for use in chemical manufacturing totaled 12,223,000 gal. in 1936 and that trade doubled to 24,601,000 gal. in 1937. The increase was not as spectacular in 1938 due to adverse economic conditions; however, 30,496,000 gal. of propane-butane were absorbed by chemical manufacturing in that period.

Reference: U. S. Bureau of Mines, Petroleum Economics Division, Mineral Market Report, M.M.S. No. 748, 1939.

The finest heavy duty precision equipment available keeps our shops in step with the times for the fabrication of modern refinery and natural gasoline plant requirements.

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WYATT METAL & BOILER WORKS . . . HOUSTON AND DALLAS

Average Service-Station Prices Were Lowest Since 1933

By T. F. SMILEY

It is necessary to go back to 1933 to find as low an average service-station price for gasoline as the United States motorist paid in the first 6 months of 1939. It was 13.4 cents for regular grade, according to calculations based on records of 50 representative cities. In addition were varying assortments of federal, state, and other taxes.

Going back through recent years for comparisons, the 50-city average in 1938 was 13.91 cents, exclusive of taxes; 1937, 14.4 cents; 1936, 14.11 cents; 1935, 13.55 cents; 1934, 13.60 cents. In 1933 all records were smashed, the motorist paying only 12.76 cents a gallon, and in the first 6 months of that year 11.90 cents.

The New Orleans car owner won the dubious honor of paying the most to have his tank filled in the first half of 1939. He gave the station operator 23.75 cents a gallon. But only 13.75 cents of it was for gasoline. The additional 10 cents went into the outstretched palms of tax collectors.

The distinction of paying the highest price for gasoline, exclusive of taxes, went to the motorist in Boise, Idaho. It was 17.6 cents. Taxes of 6 cents brought the total to 23.6 cents; but even then it was less than the New Orleans man had to pay, so after all, Idaho felt it could laugh at Louisiana. Helena, Mont., was close behind Boise with a service-station charge of 23 cents, divided gasoline 17 cents and taxes 6 cents.

No city was able to dislodge Wichita, Kans., from the place it held throughout 1938, that of paying the lowest price for its motor fuel. Of the 14.1 cents a gallon given to the Wichita service-station operator in the first 6 months of the current year 10.1 cents was for gasoline, the rest for taxes. Wichita long has been a center of savage retail price-cutting. Other low spots were Newark, N. J., 15.2 cents, including taxes, and Detroit, Mich., 15.6 cents.

Each month in the half-year witnessed a lower price than had been recorded in the corresponding month of 1938, and as the first half of the year closed conditions in the gasoline marketing division were far from satisfactory, although consumption was soaring to unprecedented heights.

There were no changes in state taxes during the half-year, but an increase of 1 cent was announced to go into effect July 1 in North Dakota, the total tax rising from 4 cents to 5. The gasoline tax throughout the country ranged from a low of 3 cents in Washington, D. C., to the 10 cents in New Orleans, where a 2-cent parish tax carried the total that much above the 8 cents paid in the rest of the state.

Year-to-Year Trend of Retail Gasoline Prices

Average Service Station Prices in Cents in 50 Representative Cities, Exclusive of Tax

	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939
January	17.23	14.56	12.87	12.54	14.32	12.90	13.70	14.09	14.08	13.38
February 1	16.96	14.83	12.97	11.63	13.87	13.16	14.21	14.10	14.07	13.32
March 1	16.28	14.86	12.91	11.49	14.18	13.22	14.22	14.46	13.99	13.28
April 1	15.92	13.68	13.18	11.58	13.57	13.28	13.87	14.47	14.12	13.34
May 1	16.95	12.40	13.59	11.60	13.55	13.64	14.27	14.55	14.08	13.36
June 1	17.01	12.21	13.68	10.82	13.93	13.90	14.31	14.58	14.05	13.46
July 1	16.56	12.46	14.21	13.06	14.06	14.00	14.26	14.42	14.08	13.57
August 1	16.47	12.41	14.02	13.52	13.98	14.10	14.24	14.54	14.08	..
September 1	16.26	12.21	13.65	14.00	13.89	13.78	14.21	14.53	13.97	....
October 1	15.93	12.34	12.46	14.45	13.55	13.42	14.07	14.49	13.75	....
November 1	15.41	12.32	13.04	14.30	11.92	13.46	13.99	14.45	13.39	....
December 1	14.96	12.89	12.96	14.17	12.43	13.69	13.97	14.13	13.27	....
Average	16.33	13.09	13.30	12.76	13.60	13.55	14.11	14.40	13.91	13.40

Comparison of Net Service Station Prices January 1, 1939, and July 1, 1939

Atlantic and New England States

	Jan. 1, 1939	July 1, 1939
Portland, Me.	12.5	11.5
Burlington, Vt.	13.2	11.0
Hartford, Conn.	12.9	12.8
Springfield, Mass.	12.5	12.8
New York, N. Y.	11.4	11.5
Philadelphia, Pa.	11.5	11.5
Providence, R. I.	12.5	12.5
Newark, N. J.	11.2	11.2
Baltimore, Md.	11.7	11.7
Dover, Del.	12.0	12.0
Washington, D. C.	12.5	12.5
Average	12.2	11.9

Central

Fargo, N. D.	14.7	14.7
Huron, S. D.	14.0	14.0
Wichita, Kans.	10.1	10.1
Omaha, Neb.	13.5	13.5
Tulsa, Okla.	11.0	14.0
Dallas, Tex.	12.0	12.0
Little Rock, Ark.	13.25	13.25
Kansas City, Mo.	11.4	12.9
Des Moines, Iowa	12.9	12.9
Duluth, Minn.	13.4	13.4
Minneapolis, Minn.	13.0	13.5
Milwaukee, Wis.	13.3	13.7
Chicago, Ill.	11.6	12.6
Peoria, Ill.	12.6	13.1
Detroit, Mich.	11.1	11.6
Indianapolis, Ind.	13.8	13.8
Cleveland, Ohio	13.0	13.0
Average	12.63	13.06

Southeastern

	Jan. 1, 1938	July 1, 1939
Norfolk, Va.	13.75	13.75
Charleston, W. Va.	14.1	14.1
Louisville, Ky.	12.5	13.5
Memphis, Tenn.	14.0	14.0
Atlanta, Ga.	14.5	13.0
Charlotte, N. C.	14.7	14.65
Charleston, S. C.	12.5	12.5
Jackson, Miss.	12.5	14.0
Birmingham, Ala.	14.0	14.0
New Orleans, La.	13.75	13.75
Jackson, Fla.	13.0	14.0
Average	13.57	13.75

Midwestern

Helena, Mont.	18.0	17.0
Boise, Idaho	17.0	17.6
Casper, Wyo.	16.0	16.0
Reno, Nev.	16.5	16.5
Salt Lake City, Utah	15.0	15.5
Denver, Colo.	16.0	16.0
Phoenix, Ariz.	16.5	16.5
Albuquerque, N. M.	15.0	14.5
Average	16.3	16.2

West Coast

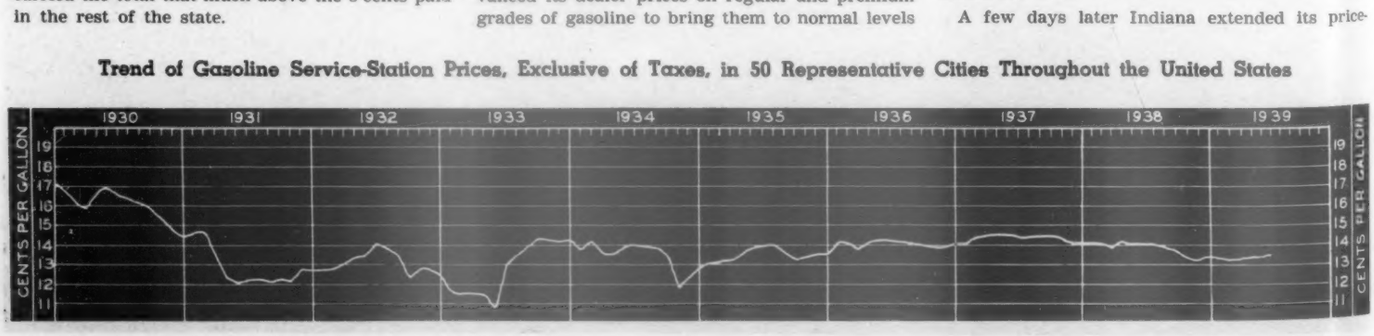
San Francisco, Calif.	14.5	14.5
Portland, Ore.	15.0	15.0
Seattle, Wash.	15.0	15.0
Average	14.8	14.8

The low level of service-station prices prevailing in the first half of 1939 was traceable to basically unsound conditions, including overproduction of both crude oil and gasoline, too many filling stations, and ruinous marketing practices in various areas.

Two movements, one by Standard Oil Co. of Indiana and the other by Sinclair Refining Co., were initiated in the 6-month period with a view of correcting disordered conditions in the gasoline market. In May, Standard of Indiana advanced its dealer prices on regular and premium grades of gasoline to bring them to normal levels throughout the Chicago division and raised its dealer price for third-grade material 1 cent a gallon. At the same time throughout Illinois and Indiana the company advanced to normal all subnormal dealer and tank-wagon prices for the regular and premium grades. It also advanced its prices on third grade to normal or to the extent of 1 cent where existing prices were more than a cent below normal. The area involved had been a hotbed of price-cutting operations, and the quickening effect of Indiana's action was immediate.

A few days later Indiana extended its price-

Trend of Gasoline Service-Station Prices, Exclusive of Taxes, in 50 Representative Cities Throughout the United States



raising movement to include all the 10 states in which that company is recognized as the key marketing organization. The higher dealer prices were passed on to the consumer. Virtually all other companies with market outlets in Standard of Indiana territory adopted the Indiana prices and a definitely healthier condition was established. The price advances begun in Standard of Indiana territory spread to contiguous areas and to various parts of the Southwest. The wholesome results were still visible as the half-year ended.

On the heels of this action by Standard of Indiana came a still more ambitious one by Sinclair Refining Co., which on June 14 advanced its tank-wagon gasoline prices a half-cent throughout the 42 states in which it operates. With a few important exceptions major companies and independents throughout the country fell into line, in almost all cases meeting the Sinclair increase without modification. The principal exceptions were Sun Oil Co., Standard Oil Co. of Ohio, Atlantic Refining Co., and the marketing subsidiaries of Standard Oil Co. of New Jersey. For a few days it was believed the holdouts would raise their prices. A statement from the Sinclair company was to the effect that the advance which it had instituted was about 65 per cent effective. Service-station prices went up along with dealer and tank-wagon.

But noncooperating companies made no move, and crumbling of the whole movement began. Texas Corp. was one of the first to retrace its steps by withdrawing the higher prices which it had posted in territory where it was in competition with holdouts. Others joined in the retreat. Sinclair itself was obliged to readjust its advanced prices. As the half-year closed little was left of an undertaking which had promised not only to raise subnormal service-station prices but refinery prices as well.

The two world's fairs, one in New York and one in San Francisco, were important factors in the record-breaking consumption of gasoline, which paradoxically was costing the motorist less, instead of more, than he usually paid.

SERVICE-STATION PRICES DURING 6 MONTHS OF 1939 IN 50 REPRESENTATIVE CITIES

Gasoline Taxes in Effect January 1, 1939 and July 1, 1939

	Price Jan. 1, 1939	January		February	March		April	May		June		Price July 1, 1939	Tax Jan. 1, 1939	Tax July 1, 1939
Birmingham, Ala.	14.0	....	....	2/1 13.0	....	....	4/19 11.5	5/2 14.0	5/25 13.5	6/20 14.0	....	14.0	8.0	8.0
Phoenix, Ariz.	16.5	....	....	....	....	....	....	....	....	....	....	16.5	6.0	6.0
Little Rock, Ark.	13.25	....	....	....	....	....	....	....	....	....	....	13.25	7.5	7.5
San Francisco, Calif.	14.5	....	....	....	....	....	....	....	....	....	....	14.5	4.0	4.0
Denver, Colo.	16.0	....	....	2/10 12.8	....	....	....	....	....	....	....	16.0	5.0	5.0
Hartford, Conn.	12.9	....	....	....	....	....	....	....	....	....	....	12.8	4.0	4.0
Washington, D. C.	12.5	....	....	....	....	....	....	....	....	....	....	12.5	3.0	3.0
Dover, Del.	12.0	....	....	....	....	....	4/20 13.5	....	....	6/20 14.0	....	14.0	8.0	8.0
Jacksonville, Fla.	13.0	1/14 13.5	1/19 12.5	....	3/1 13.5 3/14 17.1	3/8 12.5 3/23 17.6	....	....	....	6/20 13.0	....	13.0	7.0	7.0
Atlanta, Ga.	14.5													
Boise, Idaho	17.0	....	....	....	....	....	....	5/23 12.6 5/23 13.1	....	....	....	17.6	6.0	6.0
Chicago, Ill.	11.6	....	....	....	....	....	....					12.6	4.0	4.0
Peoria, Ill.	12.6	....	....	....	....	....	....					13.1	4.0	4.0
Indianapolis, Ind.	13.8	....	....	....	....	....	....	....	....	....	....	13.8	5.0	5.0
Des Moines, Iowa	12.9	....	....	....	3/16 10.6	....	....	....	....	6/8 11.1 6/12 13.0	6/27 10.1 6/20 13.5	12.9	4.0	4.0
Wichita, Kans.	10.1	....	....	....								10.1	4.0	4.0
Louisville, Ky.	12.5	....	....	....	....	....	....	....	....			13.5	6.0	6.0
New Orleans, La.	13.75	....	....	2/10 12.0	....	....	....	5/5 11.3	5/16 11.6	6/13 11.5	....	13.75	10.0	10.0
Portland, Me.	12.5	....	....		....	....	....					11.5	5.0	5.0
Baltimore, Md.	11.7	....	....	2/10 12.3	....	....	....	....	....	6/13 12.8 6/17 11.6	....	11.7	5.0	5.0
Springfield, Mass.	12.5	....	....		....	....	....	....	....			12.8	4.0	4.0
Detroit, Mich.	11.1	....	....	....	....	....	....	....	....			11.6	4.0	4.0
Duluth, Minn.	13.4	....	....	....	3/16 13.5	....	....	....	....	....	....	13.4	5.0	5.0
Minneapolis, Minn.	13.0	....	....	....				....	....	6/1 13.5	6/20 14.0	13.5	5.0	5.0
Jackson, Miss.	12.5	....	....	....	....	....	....	....	....			14.0	7.0	7.0
Kansas City, Mo.	11.4	....	....	....	3/16 11.9	....	4/27 12.4	....	....	6/8 12.9	....	12.9	4.0	4.0
Helena, Mont.	18.0	1/27 17.0	....	....	....	....	....	....	....	....	....	17.0	6.0	6.0
Omaha, Neb.	13.5	....	....	2/8 12.0	3/23 12.5	....	....	5/10 13.5	....	....	....	13.5	6.0	6.0
Reno, Nev.	16.5	....	....	....	....	....	....	....	....	....	....	16.5	5.0	5.0
Newark, N. J.	11.2	....	....	....	....	....	....	....	....	....	....	11.2	4.0	4.0
Albuquerque, N. M.	15.0	1/6 13.5	....	....	3/21 14.0	3/22 14.5	....	....	....	....	....	14.5	6.5	6.5
New York, N. Y.	11.4	....	....	....	3/22 10.9	....	4/27 11.3	....	....	6/13 11.5	....	11.5	5.0	5.0
Charlotte, N. C.	14.7	....	....	....	....	....	....	5/18 14.45	....	6/13 14.65	....	14.65	7.0	7.0
Fargo, N. D.	14.7	....	....	....	....	....	....	....	....	....	....	14.7	4.0	4.0
Cleveland, Ohio	13.0	....	....	....	....	....	....	....	....	....	....	13.0	5.0	5.0
Tulsa, Okla.	11.0	....	....	....	3/14 12.0	....	4/25 13.0	....	....	6/9 14.0	....	14.0	5.0	5.0
Portland, Ore.	15.0	....	....	....	....	....	....	....	....	....	....	15.0	6.0	6.0
Philadelphia, Pa.	11.5	....	....	....	....	....	....	....	....	....	....	11.5	5.0	5.0
Providence, R. I.	12.5	....	....	....	....	....	....	....	....	....	....	12.5	4.0	4.0
Charleston, S. C.	12.5	....	....	....	....	....	....	....	....	....	....	12.5	7.0	7.0
Huron, S. D.	14.0	....	....	....	....	....	....	....	....	....	....	14.0	5.0	5.0
Memphis, Tenn.	14.0	....	....	....	....	....	....	....	....	....	....	14.0	8.0	8.0
Dallas, Tex.	12.0	....	....	....	....	....	....	....	....	....	....	12.0	5.0	5.0
Salt Lake City, Utah	15.0	....	....	....	3/23 15.5	....	....	....	....	....	....	15.5	5.0	5.0
Burlington, Vt.	13.2	....	....	2/10 12.7	3/17 12.0	....	....	....	....	6/13 11.0	....	11.0	5.0	5.0
Norfolk, Va.	13.75	....	....	....	....	....	....	....	....	....	....	13.75	6.0	6.0
Seattle, Wash.	15.0	....	....	....	....	....	....	....	....	....	....	15.0	6.0	6.0
Charleston, W. Va.	14.1	....	....	....	....	....	....	....	....	....	....	14.1	6.0	6.0
Milwaukee, Wis.	13.3	1/13 12.3	....	....	....	....	....	5/27 12.8	....	6/17 13.3	6/26 13.7	13.7	5.0	5.0
Casper, Wyo.	16.0	....	....	....	....	....	....	....	....	....	....	16.0	5.0	5.0
Average price	13.45	....	....	....	....	....	....	....	....	....	....	13.57	5.42	5.42

Prices for Refined Products Generally Were Lower in First Half of Year

By T. F. SMILEY

Prices received for refined-oil products during the first half of 1939 were with few exceptions lower than those recorded in 1938. Excessive runs to stills, topheavy stocks, disordered markets, and other unfavorable conditions kept them from reaching levels to which demand in some instances clearly entitled them.

The average tankcar price of regular-grade gasoline in Oklahoma in the first 6 months of the current year was 4.64 cents, as against 5.03 cents in 1938. Not until June did prices in most areas attain a point that enabled the refiner to put away the red-ink bottle. They were at just about the break-even mark as the half-year closed, with prospects none too encouraging, though consumption was rising.

Gasoline stocks at the opening of the year were approximately 4,000,000 bbl. less than they had been at the beginning of 1938. It was expected that refiners, with the lessons of other years to guide them, would increase this gap and bring stocks to an economic level—65,000,000 bbl., say—before the close of the heavy consuming season. And they did widen it for a while. But in April runs to stills began to mount, and the rate of decline in stocks lagged. As June ended, gasoline stocks, instead of being on the road to a sound basis, were larger than they had been in the corresponding week of 1938. The market outlook produced by this unhealthy situation was reflected in the price structure.

The tankcar prices of gasoline were so low in the early spring that many majors and semi-majors bought it instead of making it. Confidence that a strong gasoline market lay ahead prevailed, however, and for a time there was a seeming scarcity of material. Refinery prices were still below the cost of manufacture in many cases; but they were rising gradually, and a common feeling was that the season of peak consumption would cure most of the market ills. As the half-year closed, however, it was recognized that if the hopes entertained earlier in the year were to be fulfilled there would have to be drastic reductions in plant operations. The heaviest demand in all gasoline marketing history had set in; but production was close behind, and prices were having difficulty in holding.

One of the surprises of the half year was the way the light fuels escaped the demoralization for which they had seemed headed. A moderate winter left refiners and jobbers with burdensome stocks. Deep price-cutting as a means of moving them seemed inevitable. But even as the winter had been unseasonably mild, so the spring was of unorthodox pattern too—long-drawn out, with belated snow, sleet, and cold winds. Thus, one seasonal abnormality offset the other. When the delayed warm weather eventually arrived the heating-oil inventories were well liquidated and it was almost time to begin storing for fall use. There was no disorderly market. Nevertheless. the group made a rather poor showing in comparison with its 1938 performance. At the end of June the No. 1 straw, taken as representative of the light-fuel list in the Mid-Continent territory, was selling at a quarter-cent less than in the corresponding week of 1938.

The average price of No. 1 straw in the Group 3 market for the half-year was 3.27 cents, compared with 3.68 cents in 1938. A bigger drop was recorded in the New York market, where No. 1 furnace oil registered an average of 4.35 cents for the half-year, compared with 5.14 cents in 1938.

Lubricating oils and wax presented the only instances in which 1939 averages exceeded those of 1938. Pennsylvania bright stocks and neutrals were in better position at the midyear than at the beginning, commanding substantially higher prices. In the Mid-Continent this division of the market traveled a hard road, just as it had throughout the whole preceding year. Published prices for first-grade material did not change at all; but these prices were adhered to by only those companies with firmly established reputations for the quality of their products, who refused either to deviate from rigorous specifications or to sell their output at a loss. Volume of business in June was large, but surplus stocks were heavy and underselling was widespread.

Natural gasoline gave a much better performance than most of its companions in the list of oil products. Taking a sharp seasonal drop from 3¾ cents at the opening of the year, the 26-70 grade hit 2½ cents the first week in February and it held at that level till June, when it began advancing. At the close of that month it was quoted in both Oklahoma and Texas at 2¾ cents. Manufacturers liked the action of their product better than they did in 1938, when it experienced two spring slumps, each of which carried the 26-70 to 2 cents. Although the best prices for natural come in the second half of the year, the average Group 3 price for 26-70 in the first 6 months of 1939 was only a little below the average for the whole of 1938—2.65 cents, compared with 2.71 cents in 1938. The trade was predicting that the average for 1939 would exceed than for 1938.

At no period during the half-year did wax show any signs of weakness. In February a definite seller's market set in, and from that time till the end of June wax was buoyant.

Crude oil was a source of uneasiness throughout the half-year, and it was being watched anxiously by both producers and refiners. The posted prices of 36-gravity Mid-Continent and 25-gravity Signal

AVERAGE YEARLY PRICES ON MOST IMPORTANT REFINERY PRODUCTS, 1930 to JULY 1, 1939

(Price in Tankcar at Plant)

OKLAHOMA

	First 6 mos. of 1939	1938	1937	1936	1935	1934	1933	1932	1931	1930
U. S. Motor gasoline (regular grade), per gal.	$.0464	$.0503	$.0582	$.0588	$.0492	$.0444	$.0363	$.0392	$.0345	$.0634
Natural gasoline, 26-70, per gal.	.0265	.0271	.0367	.0361	.0320	.0260	.0290	.0222	.0301	.0524
41-43 water white kerosene, per gal.	.0378	.0407	.0413	.0365	.0353	.0322	.0279	.0315	.0231	.0358
Below 14 fuel oil, per bbl.	.4654	.5509	.7780	.6619	.6232	.5930	.3899	.3250	.2904	.5225
U.G.I. gas oil, per gal	.0271	.0208	.0289	.0251	.0233	.0201	.0146	.0146	.0127	.0227
200 vis. neutral, 3 color, per gal. (15-20 pourpoint)	.10	.10	.0996	.1043	.1075	.0994	.0845	.0834	.0924	.1059
124-126 wax (crude scale), per lb.	.0256	.0230	.0286	.0245	.0224	.0346	.0253	.0170	.0174	.0216
150-160 D color bright stock, per gal.	.1425	.1491	.1859	.1769	.1496	.2030	.1852	.1837	.1631	.2977
Crude (36 A.P.I. gravity), per barrel	1.02	1.19	1.21	1.10	1.00	1.00	.62	.88	.63	1.23

CALIFORNIA

	First 6 mos. of 1939	1938	1937	1936	1935	1934	1933	1932	1931	1930
U. S. Motor gasoline, per gal, (low octane)	$.0619	$.0677	$.0737	$.0602	$.0552	$.0624	$.0523	$.0546	$.0510	$.0806
Natural gasoline, 75-85, 375 e.p., per gal.	.0630	.0639	.0676	.0617	.0506	.0575	.0462	.0447	.0418	.0712
38-43 kerosene, per gal.	.0475	.0510	.0432	.0339	.0409	.0458	.0384	.0398	.0425	.0455
24 plus Diesel*	.97	1.19	1.175	1.035	1.084	1.032	.8406	.7432	.7510	.8365
Crude (25 A.P.I. gravity, Signal Hill), per barrel	1.03	1.03	1.03	.997	.85	.94	.84	.83	.76	1.16

PENNSYLVANIA

	First 6 mos. of 1939	1938	1937	1936	1935	1934	1933	1932	1931	1930
U. S. Motor gasoline, per gal. (below 60 octane)	$.0438	$.0487	$.0544	$.0565	$.0521	$.0519	$.0505	$.0568	$.049	$.0737
45 water white kerosene, per gal.	.0489	.0501	.0507	.0504	.0467	.0448	.0446	.0451	.04	.0501
Bright stock, 10-15 pour test, per gal.	.1733	.1671	.2422	.2361	.1990	.2540	.2407	.2466	.2094	.3373
Crude (in National Transit Lines), per barrel	1.93	1.89	2.64	2.42	2.17	2.47	1.86	1.88	1.81	2.55

*1935 and earlier prices are on 27 plus Diesel.

Hill crudes, used as typical in the accompanying table, did not vary in the whole 6 months, and only changes growing out of local conditions were reported in other areas. Overproduction, particularly in Illinois, exerted a weakening influence. Substantial quantities of Illinois crude were being sold below posted schedules. Evil effects of the disordered crude market were plainly apparent in the market for refined products.

AVERAGE DOMESTIC AND EXPORT REFINED PRICES OVER PAST THIRTY MONTHS

(QUOTATIONS F.O.B. PLANTS AND TERMINALS)

	1st 6 mos., 1939			1938					1937				
	Average price	High	Low	Av. pr. for yr.	High	Low	1st 6 mos.	2nd 6 mos.	Av. pr. for yr.	High	Low	1st 6 mos.	2nd 6 mos.
GASOLINES—													
Oklahoma (Group 3):													
U. S. Motor grades:													
Regular, 70-72 octane	$.0464	$.05	$.0438	$.0503	$.0550	$.0437	$.0510	$.0496	$.0582	$.0613	$.05	$.0594	$.0570
Third grade, below 62 octane	.0377	.0425	.0325	.0415	.0475	.0337	.0417	.0414	.0475	.0513	.04	.0488	.0462
60-62 400 (below 60 octane)	.0376	.0425	.0325	.0415	.0475	.0337	.0417	.0414	.0475	.0513	.04	.0488	.0462
64-66 375	.0405	.0425	.04	.0454	.0475	.0400	.0465	.0442	.0504	.0525	.0450	.0513	.0495
North Texas:													
U. S. Motor, below 62 octane	.0376	.0425	.0325	.0416	.0475	.0337	.0418	.0414	.0475	.0513	.04	.0487	.0462
64-66 375	.0405	.0425	.04	.0457	.05	.04	.0465	.0449	.0499	.0525	.0450	.0505	.0494
Pennsylvania:													
U. S. Motor, below 60 octane	.0438	.0450	.0425	.0487	.0525	.0425	.0488	.0486	.0544	.06	.0450	.0528	.0559
California:													
54-58, U. S. Motor	.0619	.0650	.06	.0677	.0750	.0650	.0690	.0664	.0737	.0750	.07	.0725	.0750
New York (Bayonne, N. J.):													
65 octane and above	.0608	.0650	.06	.0666	.0712	.0650	.0673	.0658	.0745	.08	0.675	.0721	.0769
Gulf Coast (domestic):													
U. S. Motor, below 65 octane	.0454	.0463	.0450	.05	.0537	.0450	.0525	.0476	.0598	.0650	.0538	.0587	.0609
U. S. Motor, 65 octane and above	.0472	.0513	....	.0523	.0550	.0462	.0549	.0498	.0620	.0650	.0550	.0619	.0620
NAPHTHAS—													
Pennsylvania:													
52-56 450 (blending)	.0425	.0425	.0425	.0471	.0525	.0425	.0467	.0475	.0532	.0588	.0438	.0514	.0551
NATURAL GASOLINES													
Oklahoma (Group 3):													
Grade 26-70	.0265	.0375	.0250	.0271	.0375	.02	.0236	.0305	.0367	.0450	.03	0.337	.0397
Grade 18-55	.0315	.0438	.0275	.0317	.0437	.0237	.0280	.0353	.0439	.0538	.0350	.0405	.0473
California:													
75-85 375-390	.0630	.0650	.06	.0639	.0675	.0625	.0650	.0627	.0676	.07	.0675	.0677	.0675
KEROSENE—													
Oklahoma (Group 3):													
41-43 water white	.0378	.0388	.0338	.0407	.0425	.0387	.0415	.0398	.0413	.0425	.0388	.0416	.0410
North Texas:													
41-43 water white	.0397	.0475	.0338	.0407	.0425	.0387	.0415	.0399	.0417	.0438	.0388	.0422	.0412
Pennsylvania:													
45 water white	.0489	.05	.0463	.0501	.0550	.0462	.0517	.0485	.0507	.0550	.0463	.0490	.0524
California:													
38-43 high burning test	.0475	.0475	.0475	.0510	.06	.0475	.0530	.0490	.0432	.0550	.0325	.0384	.0480
New York (Bayonne, N. J.):													
41-43 water white	.0450	.0475	.0438	.0515	.0630	.0462	.0567	.0462	.0573	.0630	.05	.0556	.0590
Gulf Coast:													
41-43 water white	.0370	.0388	.0350	.0428	.05	.0387	.0461	.0395	.0508	.0550	.0378	.0508	.0507
FURNACE OILS AND TRACTOR FUELS—													
Oklahoma (Group 3):													
32-36, No. 2 straw	.0304	.0338	.0275	.0350	.0387	.0300	.0351	.0349	.0355	.0388	.0325	.0348	.0363
38-40, No. 1 straw	.0327	.0350	.0313	.0368	.04	.0350	.0377	.0359	.0372	.04	.0363	.0369	.0375
38-42, No. 1 prime white	.0340	.0363	.0313	.0381	.0412	.0362	.0390	.0373	.0392	.0413	.0378	.0389	.0396
New York (Bayonne, N. J.):													
No. 1	.0435	.0450	.04	.0514	.0630	.0450	.0578	.0450	.0588	0.630	.0550	.0574	.0602
No. 4	.0397	.04	.0375	.0439	.0525	.0400	.0478	.04	.0503	.0525	.0450	.0488	.0519
GAS OIL, DIESEL OIL AND FUEL OIL—													
Oklahoma (Group 3):													
U.G.I. gas oil	.0271	.0288	.0250	.0280	.0287	.0262	.0275	.0285	.0289	.0313	.0275	.0280	.0298
Below 14 fuel oil, industrial	.4654	.50	.45	.5509	.70	.50	.5961	.5058	.7780	.80	.70	.7831	.7730
California:													
24 plus Diesel, per bbl.	.97	1.00	.80	1.19	1.50	1.00	1.32	1.05	1.18	1.50	1.00	1.08	1.29
New York (Bayonne, N. J.):													
28-30 Diesel (ligtherage 6¼ cents bbl.)	1.67	1.75	1.65	1.84	2.20	1.75	1.93	1.75	2.08	2.20	1.65	1.95	2.20
Bunker C (New York Harbor)	.96	1.05	.95	1.05	1.25	.95	1.14	.95	1.27	1.35	1.15	1.22	1.31
NEUTRAL OILS—													
Oklahoma (Group 3):													
200, 3 color, 15-20 pourpoint	.10	.10	.10	.10	.10	.10	.10	.10	.0996	.10	.0950	.0992	.10
Pennsylvania:													
200, 3 color, 10 pourpoint	.1810	.19	.17	.1714	.20	.1350	.1784	.1644	.2567	.29	.21	.2663	.2471
Gulf Coast:													
200, 3 pale oil	.07	.07	.07	.0700	.07	.07	.0700	.0700	.0696	.07	.0650	.0692	.0700
200, 5-6 red oil	.0725	.0725	.0725	.0719	.0725	.0725	.0725	.0712	.0714	.0725	.0675	.0702	.0725
California:													
200, 2½-3 pale oil	.0725	.0725	.0725	.0719	.0750	.0725	.0725	.0712	.0708	.0725	.0625	.0697	.0718
BRIGHT AND STEAM REFINED STOCKS—													
Oklahoma (Group 3):													
150-160, zero to 10, D color	.1425	.1425	.1425	.1491	.16	.1425	.1554	.1428	.1859	.20	.16	.1938	.1781
631 green (treated), S.R.	.1250	.1250	.1250	.1299	.1350	.1250	.1348	.1250	.1583	.1750	.13	.1619	.1546
Pennsylvania:													
600 S.R.	.0831	.0850	.08	.0815	.0850	.07	.0827	.0803	.1374	.1750	.07	.1617	.1131
Bright stock, 10 pourpoint	.1733	.18	.15	.1671	.1850	.15	.1721	.1621	.2422	.28	.18	.2694	.2150
WAX—													
Oklahoma (Group 3):													
124-126 (crude scale)	.0256	.03	.0235	.0230	.03	.0212	.0234	.0226	.0286	.03	.0263	.0272	.03
New York (Bayonne, N. J.):													
125-127 (a.m.p.)	.0367	.0390	.0360	.0431	.0455	.0435	.0441	.0421	.0455	.0455	.0455	.0455	.0455
EXPORT PRICES—													
Gasoline—Gulf Coast:													
U. S. Motor	.0428	.0438	.0425	.0481	.0537	.0437	.0482	.0470	.0576	.0613	.0525	.0563	.0588
64-66 375*	.0437	.0450	.04	.0510	.0575	.0450	.0522	.0498	.0606	.0638	.0563	.0597	.0615
Los Angeles, Calif.:													
U. S. Motor, 55-65 octane	.0458	.05	.0450	.0521	.0575	.0500	.0539	.0502	0.503	.06	.0475	.0475	.0531
U. S. Motor, 65-69 octane	.0483	.0575	.0473	.0559	.0625	.0525	.0589	.0529	0.531	.0625	.05	.05	.0561
Lubricants—New York (f.a.s. in bbl.):													
600 S.R. unfiltered	.16	.16	.16	.1607	.1650	.1550	.1613	.16	.2170	.24	.1650	.2284	.2056
Bright stock, No. 8 color	.1625	.1625	.1625	.1914	.2350	.1625	.2203	.1625	.2994	.32	.2350	.3082	.2906

*First 23 weeks.

Semi-Annual Review

10 POOLS OPENED IN GULF COAST AREA; 6 IN LOUISIANA, 4 IN TEXAS

By NEIL WILLIAMS

The opening of the first Wilcox production in coastal Louisiana and a general increase in drilling operations throughout that district featured developments along the Gulf Coast district during the first 6 months of the year. Ten fields were opened and new sand discoveries and important extensions were made in several proven fields. Of the new pools six were located in coastal Louisiana and four in the Texas coastal area.

The opening of Wilcox (Tertiary) production on the Eola prospect in Avoyelles Parish was by far the most outstanding discovery made in South Louisiana in several years. The pool was opened in January by Sid Richardson No. 1 Haas Investment Co. The Wilcox formation was topped at 8,430 ft., and the well was completed in 105 ft. of saturated sand at 8,445-8,550 ft. for an initial production of 275 bbl. daily, flowing through a ¼-in. choke. Gravity of the oil tested 43°. At the end of June, 11 oil wells had been completed and nine wells were drilling. The field has been defined on the southeast and present indications are that the major part of the structure lies to the west and northwest. While majority of the acreage is held by Sid Richardson and Amerada Petroleum Corp. several small tracts are being developed by other independents.

The discovery resulted in an extensive leasing and drilling program through the northern tier of parishes, extending into Mississippi.

To the southwest, in Evangeline Parish, deeper exploration of the Villa Platte field by the Continental Oil Co. opened production from the Wilcox sand as No. 3 Hattie Haas, on the extreme east side of the field, was completed through perforated casing at 10,055-85 ft. for an initial production of 250 bbl., flowing through a ⅛-in. choke. Production heretofore had been from the Sparta formation at 8,900-9,000 ft.

Texas Co. opened the first production in St. Charles Parish with the discovery of the Paradis field. No. 1 L. L. and E. Paradis, Section 39-14s-20e, was completed through perforated casing at 8,985-9,915 ft., starting at 120 bbl. per day of 53.7-gravity distillate, flowing through a ¼-in. choke under a tubing pressure of 3,000 lb. The well was drilled to 10,787 ft., and showed various quantities of gas and distillate at intervals from 9,400 to 10,080 ft.

First production in St. Bernard Parish came with the discovery of the Kenilworth field by Vendome Petroleum Co. No. 1 Kenilworth Plantation. This well is on the east side of the Mississippi River, and was completed through perforated casing at 10,600-610 ft., flowing 230 bbl. of fluid per day, 40 per cent salt water, through a 13/64-in. choke. The well was drilled to 11,469 ft., and several sands showing oil and gas were logged at intervals from 10,450 to 10,650 ft.

The Chalkley field, Cameron Parish, originally opened as a distillate field last year, was converted into an oil field with the completion of Humble Oil & Refining Co. No. 1 Cameron Parish School Board. The well is 1 mile south of the discovery well, and production was obtained by perforating casing at 9,949-59 ft. On

LOUISIANA GULF COAST

Daily Average and Monthly Production in First Six Months of 1939

	January (bbl.)	February (bbl.)	March (bbl.)	April (bbl.)	May (bbl.)	June (bbl.)	Ttl. 6 mos. (bbl.)
ABBEVILLE:							
Daily average	340	366	383	391	426	425	
Month	10,540	10,248	11,873	11,730	13,206	12,750	70,347
BANCROFT:							
Daily average	1,542	1,689	1,731	1,951	2,567	2,194	
Month	47,802	47,292	53,661	58,530	79,577	65,820	352,682
BATEMAN LAKE:							
Daily average	360	406	348	329	452	868	
Month	11,160	11,368	10,788	9,870	14,012	26,040	83,238
BAYOU MALLET:							
Daily average	68	243	290	255	254	362	
Month	2,108	6,804	8,990	7,650	7,874	10,860	44,286
BAY ST. ELAINE:							
Daily average	560	537	491	1,618	533	240	
Month	17,360	15,036	15,221	48,540	16,523	7,200	119,880
BIRD ISLAND:							
Daily average	721	1,210	1,200	1,158	1,188	1,151	
Month	22,351	33,880	37,200	34,740	36,828	34,530	199,529
BLACK BAYOU:							
Daily average	2,380	2,331	2,230	3,002	2,943	2,881	
Month	73,780	65,268	69,130	90,060	91,233	86,430	475,901
BOSCO:							
Daily average	4,908	4,910	5,002	5,039	5,165	4,908	
Month	152,148	137,480	155,062	151,170	160,115	147,240	903,215
CAILLOU ISLAND:							
Daily average	14,850	14,860	14,875	14,850	14,868	14,846	
Month	460,350	416,080	461,125	445,500	460,908	445,380	2,689,343
CAMERON MEADOWS:							
Daily average	2,380	2,331	2,230	2,375	2,266	2,524	
Month	73,780	65,268	69,130	71,250	70,246	75,720	425,394
CHACAHOULA:							
Daily average	915	828	721	814	1,283	1,084	
Month	28,365	23,184	22,351	24,420	39,773	32,520	170,613
CHALKLEY:							
Daily average	12	86	245	419	362	418	
Month	372	2,408	7,595	12,570	11,222	12,540	46,707
CHARENTON:							
Daily average	4,356	4,847	6,063	6,893	6,326	6,827	
Month	135,036	135,716	187,953	206,790	196,106	204,810	1,066,411
CHENEYVILLE:							
Daily average	518	464	448	454	500	709	
Month	16,058	12,992	13,888	13,620	15,500	21,270	93,328
CHOCTAW:							
Daily average	1,439	1,285	1,387	1,384	1,468	1,154	
Month	44,609	35,980	42,997	41,520	45,508	34,620	245,234
CREOLE:							
Daily average	1,280	1,441	1,480	1,393	1,485	1,163	
Month	39,680	40,348	45,880	41,790	46,035	34,890	248,623
CROWLEY—NORTH:							
Daily average	1,747	1,900	1,900	2,100	2,369	2,554	
Month	54,157	53,200	58,900	63,000	73,439	76,620	379,316
DARROW:							
Daily average	3,098	3,133	3,150	3,150	3,160	3,142	
Month	96,038	87,724	97,650	94,500	97,960	94,260	568,132
DOG LAKE:							
Daily average	631	532	494	463	346	449	
Month	19,561	14,896	15,314	13,890	10,726	13,470	87,857
EAST HACKBERRY:							
Daily average	5,483	5,777	5,960	5,728	5,563	5,210	
Month	169,973	161,756	184,760	171,840	172,453	156,300	1,017,082
EDGERLY:							
Daily average	153	157	153	142	147	141	
Month	4,743	4,396	4,743	4,260	4,557	4,230	26,929
EOLA:							
Daily average	45	150	664	232	465	1,026	
Month	1,395	4,200	20,584	6,960	14,415	30,780	78,334
GARDEN ISLAND BAY:							
Daily average	1,566	1,313	1,404	1,264	1,379	1,671	
Month	48,546	36,764	43,524	37,920	42,749	50,130	259,633
GIBSON:							
Daily average	3,000	3,091	3,007	3,013	2,809	2,992	
Month	93,000	86,548	93,217	90,390	87,079	89,760	539,994
GILLIS:							
Daily average	7,308	6,695	6,277	6,350	6,099	5,954	
Month	226,548	187,460	194,587	190,500	189,069	178,620	1,166,784
GOLDEN MEADOWS:							
Daily average	192	139	130	105	163	230	
Month	5,952	3,892	4,030	3,150	5,053	6,900	28,977
GUEYDAN:							
Daily average	426	428	418	420	425	407	
Month	13,206	11,984	12,958	12,600	13,175	12,210	76,133

(Continued on Page 112)

TEXAS GULF COAST DISCOVERIES FIRST HALF OF 1939

Pool, county, company and farm name—	Survey	Date of completion	Producing formation	Producing depth	Initial production	No. prod. wells June 30
Aldine, Harris, Texas Gulf Prod. Co. No. 1 Weary	E. Farias	5-4	Yegua	6,824-34	129 bbl. P.D. ¼-in. choke	2
Caplen, Galveston, Sun Oil Co. No. 2 Cade	Dickson	3-13	Frio	7,474-78	307 bbl. P.D. 11/64-in. choke	2
Martha, Liberty, Stanolind O. & G. Co. No. 1 Flowers	I.&G.N. No. 7	6-30	Yegua	8,104-08	150 bbl. 15 hr. 5/32-in. choke	1
South China, Jefferson, Hebert & Smith et al, No. 1 L. D. Fontenot	H.T.&B. No. 17	6-27	Frio	7,872-85	102 bbl. P.D. 9/64-in. choke	1

COASTAL LOUISIANA DISCOVERIES FIRST HALF OF 1939

Pool, parish, company and farm name—	Sec.-Twp.-Rg.	Date of completion	Producing formation	Producing depth	Initial production	No. prod wells June 30
Eola, Avoyelles, Sid Richardson No. 1 Haas Inv. Co.	7-2s-3e	1-24	Wilcox	8,445-8,550	275 bbl. ¼-in. choke	11
Grand Lake, Cameron, Superior Oil Co. No. 1 State	24-13s-4w	5-15	Miocene	8,365-95	384 bbl. 14/64-in. choke	1
Kenilworth, St. Bernard, Vendome Pet. Co. No. 1 Kenilworth Plant.	59-13s-14e	5-15	Miocene	10,600-10	92 bbl. P.D. 13/64-in. choke	1
LaPice, St. James, Shell Oil Co., Inc., No. 1 Schexnayder	38-12s-15e	6-13	Miocene	10,910-75	47 bbl. P.D. 10/64-in. choke	1
Paradis, St. Charles, Texas Co. No. 1 E. Paradis	39-14s-20e	6-30	Miocene	9,895-9,915	120 bbl. P.D. ¼-in. choke	1
Bel, Allen, Bel Oil Corp. No. 1 J. A. Bel	22-6s-3w	6-30	Marginulina	7,272-92	Distillate	1

a 24-hour gage, flowing through a ¾-in. choke, it made 460 bbl. per day. The discovery well was completed at 8,562-68 ft.

The potentiality of the Creole field, located offshore from Cameron Parish in the Gulf of Mexico, was enlarged by the completion of Superior Oil Co. No. 6 State in a deeper sand at 6,765-75 ft., for an initial production of 281 bbl. daily, flowing through a 10/64-in. choke.

Other fields in coastal Louisiana receiving important new sand discoveries included Grand Bay and Timbalier Bay, Plaquemines Parish; Bateman Lake and Charenton, St. Mary Parish; Sweet Lake, Vermilion Parish; West Hackberry, Cameron Parish; Leesville and Golden Meadows, La Fourche Parish; Jennings, Acadia Parish; and Woodlawn, in Jefferson Davis Parish.

The Golden Meadows field, La Fourche Parish, opened last year, is receiving an extensive drilling campaign as the result of a new sand opened by Martex Petroleum Co. No. 1 Falgout Holding Corp., 1½ miles northeast of the discovery well. The well was completed at 7,925-55 ft. for an initial production of 250 bbl. daily, flowing through a ¼-in. choke. This sand is approximately 500 ft. higher than the discovery well, which is producing at 8,500-10 ft. The completion of the well extended production within the townsite of Golden Meadows, where locations for approximately 25 wells have been made. At the present time there are nine rigs running and material is being moved to several other locations.

Another discovery of last year which is receiving an active drilling campaign is the University field in East Baton Rouge Parish, where extensions have brought production to the edge of the Louisiana State University campus. This field was opened by the Louisiana Crusader Oil Co. No. 1 Duplantier, completed in the Marginulina at 6,472-77 ft. Ten additional oil wells were completed during the first 6 months, extending production over a mile in a northwest-southeast direction. At present there are nine operations in the field.

Texas Coast Discoveries

Probably the most important discovery on the Texas coast was the Caplen field, located on Bolivar Peninsula near the Gulf of Mexico in Galveston County. The discovery well, Sun Oil Co. No. 2 Cade, was completed in the Frio sand through perforated casing 7,474-78 ft., and flowed 307 bbl. of 34-gravity oil per day through a 11/64-in. choke. The company's No. 1 Hudnall and others, a northeast offset, topped the sand high and was completed through perforated casing at 7,388-7,404 ft., for an initial production of 704 bbl. per day, flowing through a ¼-in. choke. The field is in the A. Dickson Survey on a geophysical block of several thousand acres.

Development of the Aldine field, Harris County, following the discovery by Texas Gulf Producing Co. No. 1 Weary, has proven disappointing. The original well was drilled to 7,664 ft. and was completed in the Eponides Yeguaensis at 6,824-34 ft. The well gaged 518 bbl. daily flowing through a ¼-in. choke. The pool has been defined to the southwest and north, and a third well drilled by E. C. Hankamer on the Rowland lease, 1,500 ft. southeast, failed to find the discovery pay and was completed as a distillate producer at 6,642-48 ft.

Two discoveries were made in Jefferson and Liberty counties in June. On the South China prospect, 2½ miles southwest of the North Cheek field, Jefferson County, Hebert, Smith and others No. 1 L. D. Fontenot was completed in the upper Frio sand at 7,875-85 ft., and the well flowed 102 bbl. of 39-gravity oil per day through a 9/64-in. choke. The well is in the H.T.&B. Survey, and was drilled on a farm-out lease from Sun Oil Co.

Stanolind Oil & Gas Co. opened the Martha field, Liberty County, with No. 1 Flowers. The well was drilled to 9,109 ft., and production was obtained by perforating casing in the Yeguaensis at 8,104-08 ft. On a 15-hour gage it flowed 150 bbl. of 41-gravity oil through a 5/32-in. choke. In view of the thin section, the well is believed to be located on the edge of the structure. Majority of the acreage is controlled by Stanolind company, although close-in protection is held by Pan American Production Co. and Gulf Oil Corp.

Wilcox production was opened in another proven field along the Conroe trend as Peyton Brothers completed No. 3-B Kirby Lumber Co., in the Ace field, Polk County, for an initial production of 493 bbl. daily through a ¼-in. choke. The hole was drilled to a

GULF COAST TEXAS

(Upper District)

Daily Average and Monthly Production in First Six Months of 1939

	January (bbl.)	February (bbl.)	March (bbl.)	April (bbl.)	May (bbl.)	June (bbl.)	Ttl. 6 mos. (bbl.)
AMELIA:							
Daily average	3,245	3,124	3,264	2,856	2,641	2,500	
Month	100,595	87,472	101,184	85,680	81,871	75,000	531,802
ANAHUAC:							
Daily average	7,982	7,746	8,148	8,079	7,976	7,061	
Month	247,442	216,888	252,588	242,370	247,256	211,830	1,418,374
ARIOLA:							
Daily average	227	256	235	178	247	237	
Month	7,037	7,168	7,285	5,340	7,657	7,110	41,597
BARBERS HILL.							
Daily average	8,192	8,481	8,461	8,743	8,574	9,045	
Month	253,952	237,468	262,291	262,290	265,794	271,350	1,553,145
BATSON:							
Daily average	1,854	1,838	1,794	1,805	1,880	1,724	
Month	57,474	51,464	55,614	54,150	58,280	51,720	328,702
BAY CITY:							
Daily average	2,800	2,394	2,494	2,591	2,353	2,635	
Month	86,800	67,032	77,314	77,730	72,943	79,050	460,869
BIG CREEK:							
Daily average	544	568	582	556	559	450	
Month	16,864	15,904	18,042	16,680	17,329	13,500	98,319
BLUE RIDGE:							
Daily average	704	666	765	800	840	750	
Month	21,824	18,648	23,715	24,000	26,040	22,500	136,727
BOLING:							
Daily average	1,664	1,439	1,505	1,582	1,504	1,875	
Month	51,584	40,292	46,655	47,460	46,624	56,250	288,865
CLEAR LAKE:							
Daily average	108	158	257	275	221	202	
Month	3,348	4,424	7,967	8,250	6,851	6,060	36,900
CLEVELAND:							
Daily average	333	365	367	353	331	295	
Month	10,323	9,968	11,377	10,590	10,261	8,850	61,369
CLINTON:							
Daily average	326	316	319	167	205	201	
Month	10,106	8,848	9,889	5,010	6,355	6,030	46,238
CONROE:							
Daily average	27,849	26,118	28,259	27,513	29,642	28,390	
Month	863,319	731,304	876,029	825,390	918,902	851,700	5,066,644
COTTON LAKE—NORTH:							
Daily average	374	350	340	380	344	340	
Month	11,594	9,800	10,540	11,400	10,664	10,200	64,198
DAMON MOUND:							
Daily average	267	272	281	259	279	250	
Month	8,277	7,616	8,711	7,770	8,649	7,500	48,523
DANBURY:							
Daily average	479	554	506	498	433	418	
Month	14,849	15,512	15,686	14,940	13,423	12,540	86,950
DICKINSON:							
Daily average	8,660	8,752	11,399	8,959	8,851	8,355	
Month	268,460	245,056	353,369	268,770	274,381	250,650	1,660,686
ESPERSON:							
Daily average	1,252	1,338	1,318	1,137	1,121	985	
Month	38,812	37,464	40,858	34,110	34,751	29,550	215,545
EUREKA:							
Daily average	1,561	2,478	2,951	2,908	2,940	2,761	
Month	48,391	69,384	91,481	87,240	91,140	82,830	470,466
FANNETT:							
Daily average	516	501	510	473	443	375	
Month	15,996	14,028	15,810	14,190	13,733	11,250	85,007
FAIRBANKS:							
Daily average	6,249	6,939	8,143	8,550	8,419	7,767	
Month	193,719	194,292	252,433	265,500	260,989	233,010	1,390,943
FRIENDSWOOD:							
Daily average	5,286	5,500	6,183	6,376	6,340	6,159	
Month	163,866	154,000	191,673	191,280	196,540	184,770	1,082,129
GOOSE CREEK:							
Daily average	1,562	1,593	1,563	2,087	2,008	2,015	
Month	48,422	44,604	48,453	62,610	62,248	60,450	326,787
HANKAMER:							
Daily average	1,152	1,126	1,152	1,058	1,067	951	
Month	35,712	31,528	35,712	31,740	33,077	28,530	196,299
HARDIN:							
Daily average	6,197	6,244	5,864	5,763	6,989	7,340	
Month	192,107	174,832	181,784	172,890	216,659	220,200	1,158,472
HASTINGS:							
Daily average	18,206	17,802	18,471	18,100	19,589	19,020	
Month	564,386	498,456	572,601	543,000	607,259	570,600	3,356,302
HIGH ISLAND:							
Daily average	2,529	2,462	2,529	2,587	2,272	1,990	
Month	78,399	68,936	78,399	77,610	70,432	59,700	433,476
HITCHCOCK:							
Daily average	701	665	729	900	797	982	
Month	21,731	18,620	22,599	27,000	24,707	29,460	144,117
HULL:							
Daily average	6,996	6,294	6,509	7,033	6,504	6,144	
Month	216,876	176,232	201,779	210,990	201,624	184,320	1,191,821
HUMBLE:							
Daily average	3,301	3,275	3,152	2,969	3,310	2,901	
Month	102,331	91,700	97,712	89,070	102,610	87,030	570,453
KITTRELL:							
Daily average	549	535	596	637	639	480	
Month	17,019	14,980	18,476	19,110	19,809	14,400	103,794
LABELLE:							
Daily average	674	694	570	522	596	570	
Month	20,894	19,432	17,670	15,660	18,476	17,100	109,232
LIBERTY:							
Daily average	391	458	432	409	408	410	
Month	12,121	12,824	13,392	12,270	12,648	12,300	75,555
LIVINGSTON:							
Daily average	1,769	1,659	1,749	1,695	1,975	1,792	
Month	54,839	46,452	54,219	50,850	61,225	53,760	321,345
LEAGUE CITY:							
Daily average	225	247	434	665	481	371	
Month	6,975	6,916	13,454	19,950	14,911	11,130	73,336
LOCKRIDGE:							
Daily average	1,731	1,765	1,854	2,537	2,153	2,445	
Month	53,661	49,420	57,474	76,110	66,743	73,350	376,758
LOVELLS LAKE:							
Daily average	286	347	411	261	464	560	
Month	8,866	9,716	12,741	7,830	14,384	16,800	70,337
LOST LAKE:							
Daily average	98	593	101	94	107	96	
Month	3,038	16,604	3,131	2,820	3,317	2,880	31,790
LOUISE:							
Daily average	2,199	1,170	1,275	1,331	1,125	1,014	
Month	68,169	32,760	39,525	39,930	34,875	30,420	245,679
MAGNET							
Daily average	860	998	1,058	875	861	822	
Month	26,660	27,972	32,798	26,250	26,691	24,660	165,031

(Continued on Next Page)

Gulf Coast Texas Upper District (Continued)

	January (bbl.)	February (bbl.)	March (bbl.)	April (bbl.)	May (bbl.)	June (bbl.)	Ttl. 6 mos. (bbl.)
MANVEL:							
Daily average	7,839	7,648	7,855	8,699	8,641	8,220	
Month	243,009	214,144	243,505	260,970	267,871	246,600	1,476,099
MARKHAM:							
Daily average	1,772	1,710	1,860	1,775	1,618	1,445	
Month	54,932	47,880	57,660	53,250	50,158	43,350	307,230
McCROSKY:							
Daily average	210	201	200	166	141	221	
Month	6,510	5,628	6,200	4,980	4,371	6,630	34,319
MYKAWA:							
Daily average	1,189	1,198	1,070	1,001	851	857	
Month	36,859	33,544	33,170	30,030	26,381	25,710	185,694
NOME:							
Daily average	1,320	1,327	1,325	1,237	1,211	1,090	
Month	40,920	37,156	41,075	37,110	37,541	32,700	226,502
NORTH DAYTON:							
Daily average	96	106	80	77	29	93	
Month	2,976	2,968	2,480	2,310	2,852	2,790	16,376
OLD OCEAN:							
Daily average	7,056	7,516	7,795	8,023	6,530	6,829	
Month	218,736	210,448	241,645	240,690	202,430	204,870	1,318,819
ORANGE:							
Daily average	2,003	2,250	2,528	2,811	3,272	3,052	
Month	62,093	63,000	78,368	84,330	101,432	91,560	480,783
ORCHARD:							
Daily average	503	492	462	491	398	272	
Month	15,593	13,776	14,322	14,730	12,338	8,160	78,919
PICKETT RIDGE:							
Daily average	1,620	1,570	1,739	1,646	1,537	1,365	
Month	50,220	43,960	53,909	49,380	47,647	40,950	286,066
PIERCE JUNCTION:							
Daily average	2,620	2,791	2,537	2,491	2,845	2,305	
Month	81,220	78,148	78,647	74,730	88,195	69,150	470,090
PORT NECHES:							
Daily average	903	882	918	923	925	865	
Month	27,993	24,696	28,458	27,690	28,675	25,950	163,462
RACCOON BEND:							
Daily average	3,009	2,895	2,999	3,368	3,212	2,891	
Month	93,279	81,060	92,969	101,040	99,572	86,730	554,650
SANDY POINT:							
Daily average	230	200	195	130	155	145	
Month	7,130	5,600	6,045	3,900	4,805	4,350	31,830
SARATOGA:							
Daily average	1,007	1,081	1,070	1,032	1,140	1,092	
Month	31,217	30,268	33,170	30,960	35,340	32,760	193,715
SATSUMA:							
Daily average	300	294	332	355	351	313	
Month	9,300	8,232	10,292	10,650	10,881	9,390	58,745
SEABREEZE:							
Daily average	286	324	279	298	286	227	
Month	8,866	9,072	8,649	8,940	8,866	6,810	51,203
SEGNO:							
Daily average	2,739	2,731	3,019	2,921	2,391	2,189	
Month	84,909	76,468	93,589	87,630	74,121	65,670	482,387
SILSBEE:							
Daily average	1,529	1,532	1,601	1,556	1,157	1,108	
Month	47,399	42,896	49,631	46,680	35,867	33,240	255,713
SOUR LAKE:							
Daily average	1,221	1,201	1,177	1,212	1,222	1,220	
Month	37,851	33,628	36,487	36,360	37,882	36,600	218,808
SOUTH HOUSTON:							
Daily average	2,811	2,691	2,778	3,101	3,053	3,059	
Month	87,141	75,348	86,118	93,030	94,643	91,770	528,050
SPINDLETOP:							
Daily average	2,357	2,249	2,302	1,974	1,921	1,620	
Month	73,067	62,972	71,362	59,220	59,551	48,600	374,772
SPURGER:							
Daily average	1,033	1,057	1,167	1,069	1,140	1,047	
Month	32,023	29,596	36,177	32,070	35,340	31,410	196,616
SUGARLAND:							
Daily average	3,408	3,281	3,408	3,200	3,229	3,282	
Month	105,648	91,868	105,648	96,000	100,099	98,460	597,723
THOMPSON:							
Daily average	11,375	10,976	11,576	11,608	10,320	9,315	
Month	352,625	307,328	358,856	348,240	319,920	279,450	1,966,419
TOMBALL:							
Daily average	7,115	7,111	7,087	8,172	7,853	7,176	
Month	220,565	199,108	219,697	245,160	243,443	215,280	1,343,253
TURTLE BAY:							
Daily average	1,063	1,025	1,066	964	1,121	1,024	
Month	32,953	28,700	33,046	28,920	34,751	30,720	189,090
VAN VLECK:							
Daily average	2,080	2,002	2,108	2,035	1,885	1,617	
Month	64,480	56,056	65,348	61,050	58,435	48,510	353,879
WEST COLUMBIA:							
Daily average	4,662	4,596	4,839	5,262	5,114	4,849	
Month	144,522	128,688	150,009	157,860	158,534	145,470	885,083
WEST RANCH:							
Daily average	340	375	424	178	182	157	
Month	10,540	10,500	13,144	5,340	5,642	4,710	49,876
WITHERS:							
Daily average	3,462	3,565	3,800	3,899	3,517	3,247	
Month	107,322	99,820	117,800	116,970	109,027	97,410	648,349
WILLOW SLOUGH:							
Daily average	339	328	369	425	375	370	
Month	10,509	9,184	11,439	12,750	11,625	11,100	66,607
CLAY CREEK:							
Daily average	491	519	499	540	581	553	
Month	15,221	14,532	15,469	16,200	18,011	16,590	96,023
SOUTH COTTON LAKE:							
Daily average	1,401	1,427	1,423	1,438	1,396	1,508	
Month	43,431	39,956	44,113	43,140	43,276	45,240	259,156
CORDELLE:							
Daily average	1,030	1,172	1,243	1,587	1,316	1,142	
Month	31,930	32,816	38,533	47,610	40,796	34,260	225,945
FRANCITAS:							
Daily average	121	73	183	242	163	224	
Month	3,751	2,044	5,673	7,260	5,053	6,720	30,501
WEST BEAUMONT:							
Daily average	1,929	1,734	1,783	1,817	2,238	1,965	
Month	59,799	48,552	55,273	54,510	69,378	58,950	346,462
KATY:							
Daily average	145	139	171	216	169	165	
Month	4,495	3,892	5,301	6,480	5,239	4,950	30,357
MISCELLANEOUS POOLS:							
Daily average	1,184	1,080	1,195	1,004	1,093	1,018	
Month	36,704	30,240	37,045	30,120	33,883	30,540	198,532
Daily average	214,329	212,052	223,667	224,099	222,792	212,467	218,336
First 6 months 1939	6,644,199	5,937,456	6,933,677	6,722,970	6,906,552	6,374,010	39,518,864
First 6 months 1938	5,983,372	5,137,236	6,102,730	6,150,440	6,083,053	5,519,250	34,976,081
First 6 months 1937	5,464,308	5,285,312	6,395,286	5,977,310	6,437,931	6,165,946	35,726,093

Miscellaneous pools and their total production for the 6 months were: Ace, 21,398 bbl.; Allen, 874 bbl.; Bammel, 26,449 bbl.; Buckeye, 25,888 bbl.; Brenham, 5,223 bbl.; Brookshire, 606 bbl.; Clam Lake, 27,176 bbl.; Diboll, 2,591 bbl.; Edna, 482 bbl.; Ganado, 5,851 bbl.; Garwood, 3,443 bbl.; Greens Lake, 1,997 bbl.; Huntington, 1,265 bbl.; Mauritz, 21,590 bbl.; North Cheek, 2,593 bbl.; North Markham, 15 776 bbl.; Palacios, 15,860 bbl.; Caplen, 9,519 bbl.; Wilson Creek, 9,949 bbl. Total, 198,532 bbl.

total depth of 7,788 ft. and the well was completed through perforated casing at 7,748-62 ft. Two additional oil wells have been completed, extending production to the south and northeast,. Production heretofore had been from the upper Cockfield formation.

TEXAS GULF COAST

Summary of Wells Completed First Half of 1939

Field—	Comp.	Prod.	Dry	Gas
Ace	3	1,110	0	0
Amelia	3	543	0	0
Anahuac	20	10,658	0	1
Aldine	3	129	2	0
Batson	6	825	3	0
Bammel	9	0	7	2
Boling	6	980	2	2
Bay City	3	679	0	0
Big Creek	2	0	2	0
Barbers Hill	3	621	0	1
Blue Ridge	2	827	0	0
Caplen	2	1,027	0	0
Cedar Point	4	826	2	0
Clear Lake	9	701	2	2
Cotton Lake	3	264	0	1
Cordelle	13	2,618	1	0
Clam Lake	5	409	0	1
Clinton	2	0	1	1
Conroe	1	591	0	0
Danbury	5	10	4	0
Dickinson	26	7,906	1	2
Eureka	18	6,213	2	2
Esperson	3	1,062	1	0
Fannett	1	0	0	1
Fairbanks	112	16,279	4	0
Friendswood	57	31,153	0	0
Francitas	1	105	0	0
Garwood	1	70	1	0
Goose Creek	1	106	0	0
Hardin	22	7,886	0	1
Hastings	29	13,918	4	0
High Island	3	0	3	0
Hull	6	1,383	0	0
Hankamer	2	705	0	0
Hitchcock	2	115	1	0
Katy	3	0	0	3
League City	12	3,879	1	0
Lockridge	5	746	0	0
La Belle	1	20	0	0
Lovells Lake	12	1,594	3	0
Louise	4	1,300	0	0
Magnet	12	1,576	0	0
Manvel	2	351	0	1
McCroskey	1	175	0	0
Mykawa	1	0	1	0
Markham	4	244	1	0
Nome	1	275	0	0
Northwest Conroe	1	0	1	0
Old Ocean	11	2,959	0	0
Orange	18	4,225	1	1
Pierce Junction	1	436	0	0
Pickett Ridge	4	247	0	1
Port Neches	3	543	0	0
Sour Lake	1	30	0	0
Seabreeze	6	640	1	2
Segno	12	5,312	1	0
Spindletop	4	350	2	0
Spurger	6	2,440	0	0
Satsuma	5	774	2	1
Silsbee	5	1,593	0	0
South China	1	240	0	0
Thompson	24	5,653	5	0
Tomball	21	3,758	0	5
Turtle Bay	3	2,584	0	0
Van Vleck	4	885	0	0
West Ranch	6	1,498	0	0
West Columbia	13	3,842	2	0
Withers	37	3,779	1	2
Miscellaneous	52	0	52	0
Total	684	161,676	117	33

Completions by Months

Month—	Comp.	Prod.	Dry	Gas
January	100	24,939	16	7
February	119	27,450	20	7
March	110	25,355	16	3
April	109	27,792	19	5
May	150	33,057	29	7
June	96	23,083	17	4
Total first half 1939	684	161,676	117	33
Total same period 1938	671	227,232	133	17
Difference	13	65,556	16	16

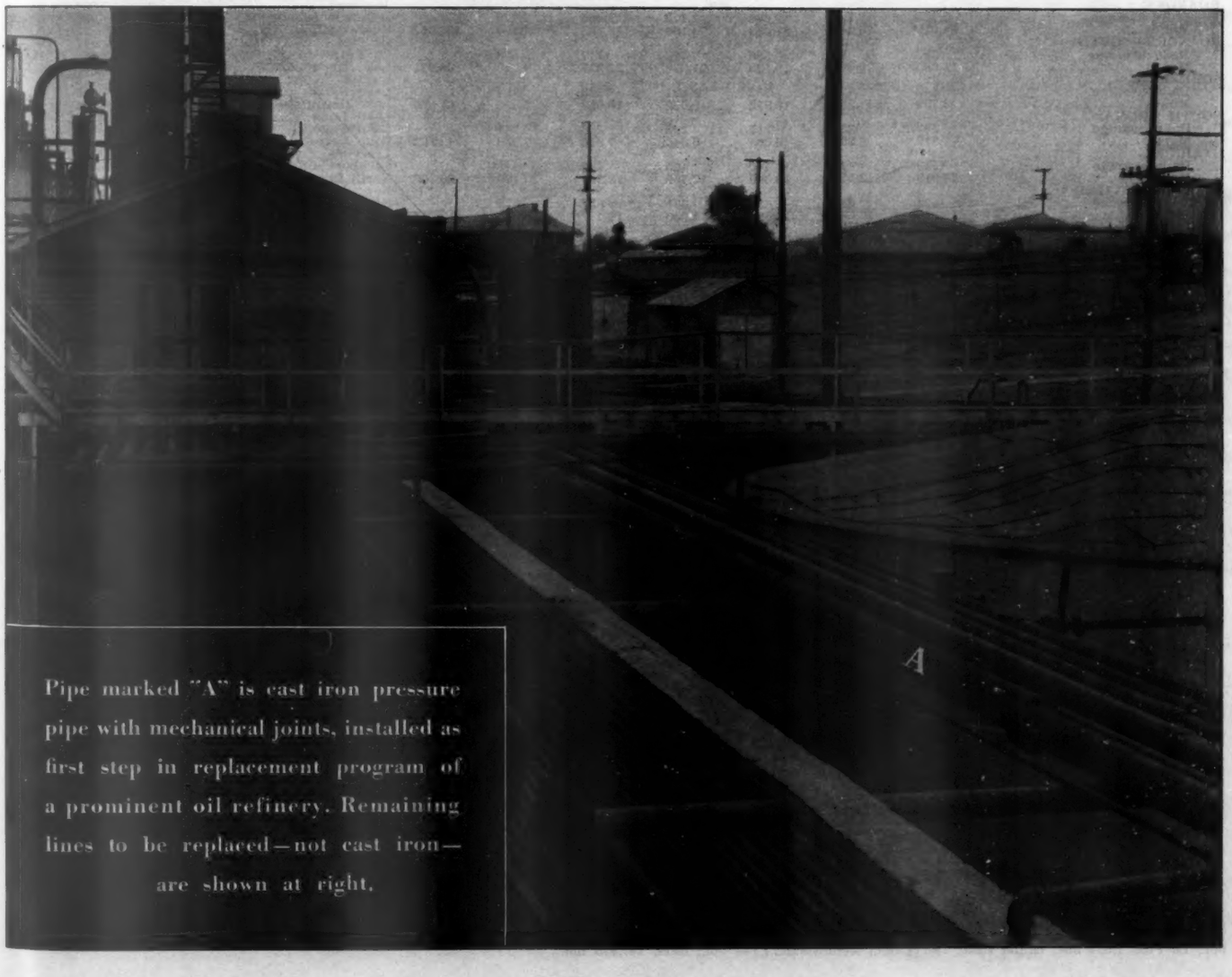
Flank drilling on several other older structures resulted in new production. On the north flank of the old Thompson field, Fort Bend County, prolific production from the Vicksburg formation was opened by H. M. Naylor No. 1 O. F. Musselman. This well was drilled to 7,899 ft., after topping the oil sand at 7,703 ft. On a potential test the well flowed at the rate of 45 bbl. of 35.7-gravity oil per hour through a ¼-in. choke. The completion has revived interest in several other old prospects and a number of wildcats are drilling in search of this deep sand.

Flush production from a new sand was opened on the southeast flank of the old Esperson dome, Liberty County, by General Crude Oil Co. No 1-B Esperson. Casing was perforated at 7,305-35 ft., and the well made an initial production of 501 bbl. daily flowing through a ¼-in. choke. Two additional producers have been completed in different horizons at 7,000 and 7,500 ft.

A new producing area flanking the southeast side of the deep Dickinson structure. Galveston County was

THEY WANTED LONGER LIFE– they replaced with cast iron pipe

Known long life and native ability to resist corrosion make cast iron pipe a contributing factor in lowest plant maintenance per barrel of crude. The results of replacement with cast iron pipe have demonstrated this in many refineries. Cost per year of service decreases. Interference with production ceases to be a problem. Cast iron pressure pipe is available in bell-and-spigot, plain and threaded ends, and flanged types, or with mechanical joints, in diameters from 1¼ to 84 inches. For further information write to The Cast Iron Pipe Research Association, Thos. F. Wolfe, Research Engineer, 1015 Peoples Gas Building, Chicago, Illinois.



Pipe marked "A" is cast iron pressure pipe with mechanical joints, installed as first step in replacement program of a prominent oil refinery. Remaining lines to be replaced—not cast iron—are shown at right.

Louisiana Gulf Coast (Continued)

	January (bbl.)	February (bbl.)	March (bbl.)	April (bbl.)	May (bbl.)	June (bbl.)	Ttl. 6 mos. (bbl.)
GUEYDAN—WEST:							
Daily average	166	177	130	112	109	104	
Month	5,146	4,956	4,030	3,360	3,379	3,120	23,991
HORSESHOE BAYOU:							
Daily average	567	563	547	587	809	810	
Month	17,577	15,764	16,957	17,610	25,079	24,300	117,287
IOWA:							
Daily average	14,298	14,037	12,754	14,185	13,965	13,120	
Month	443,238	393,036	395,374	425,550	432,915	393,600	2,483,713
JEANERETTE:							
Daily average	6,278	6,041	5,939	5,824	5,918	5,752	
Month	194,618	169,148	184,109	174,720	183,458	172,560	1,078,613
JEFFERSON ISLAND:							
Daily average	194	189	173	167	170	378	
Month	6,014	5,292	5,363	5,010	5,270	11,340	38,289
JENNINGS (Evangeline):							
Daily average	27,001	27,810	28,059	26,124	24,778	24,850	
Month	837,031	778,680	869,829	783,720	768,118	745,500	4,782,878
LAFITTE:							
Daily average	15,000	15,000	15,002	14,799	14,881	14,987	
Month	465,000	420,000	465,062	443,970	461,311	449,610	2,704,953
LAKE BARRE:							
Daily average	1,296	1,213	1,137	1,122	1,000	873	
Month	40,176	33,964	35,247	33,660	31,000	26,190	200,237
LAKE LONG:							
Daily average	1,145	1,184	1,149	1,105	1,098	1,095	
Month	35,495	33,152	35,619	33,150	34,038	32,850	204,304
LAKE PELTO:							
Daily average	635	904	881	808	829	688	
Month	19,685	25,312	27,311	24,240	25,699	20,640	142,887
LAKE WASHINGTON:							
Daily average	762	648	720	771	796	772	
Month	23,622	18,144	22,320	23,130	24,676	23,160	135,052
LEEVILLE:							
Daily average	4,196	4,261	4,138	4,071	4,017	3,982	
Month	130,076	119,308	128,278	122,130	124,527	119,460	743,779
LOCKPORT:							
Daily average	1,092	1,141	1,242	1,112	1,100	1,181	
Month	33,852	31,948	38,502	33,360	34,100	35,430	207,192
NEW IBERIA:							
Daily average	14,502	13,380	12,624	12,522	12,738	12,616	
Month	449,562	374,640	391,344	375,660	394,878	378,480	2,364,564
PORT BARRE:							
Daily average	1,337	1,521	1,563	1,827	1,648	1,815	
Month	41,447	42,588	48,453	54,810	51,088	54,450	292,836
POTASH:							
Daily average	51	200	199	200	314	394	
Month	1,581	5,600	6,169	6,000	9,734	11,820	40,904
QUARANTINE BAY:							
Daily average	1,385	1,482	1,606	2,121	2,254	2,707	
Month	42,935	41,496	49,786	63,630	69,874	81,210	348,931
RACELAND:							
Daily average	1,466	1,545	1,524	1,588	1,649	1,843	
Month	45,446	43,260	47,244	47,640	51,119	55,290	289,999
ROANOKE:							
Daily average	2,710	2,723	2,633	2,473	2,455	2,473	
Month	84,010	76,244	81,623	74,190	76,105	74,190	466,362
ROANOKE—SOUTH:							
Daily average	355	593	585	712	717	658	
Month	11,005	16,604	18,135	21,360	22,227	19,740	109,071
SORRENTO:							
Daily average	442	414	352	321	323	294	
Month	13,702	11,592	10,912	9,630	10,013	8,820	64,669
SOUTH HOUMA:							
Daily average	252	225	215	228	236	241	
Month	7,812	6,300	6,665	6,840	7,316	7,230	42,163
STARKS:							
Daily average	449	449	440	425	447	449	
Month	13,919	12,572	13,640	12,750	13,857	13,470	80,208
ST. MARTINSVILLE:							
Daily average	622	631	631	631	627	628	
Month	19,282	17,668	19,561	18,930	19,437	18,840	113,718
SULPHUR:							
Daily average	4,468	3,933	3,751	3,566	3,634	5,122	
Month	138,508	110,124	116,281	106,980	112,654	153,660	738,207
SWEET LAKE:							
Daily average	935	1,140	1,480	1,172	1,080	1,013	
Month	28,985	31,920	45,880	35,160	33,480	30,390	205,815
TEPETATE:							
Daily average	5,255	5,597	5,689	5,556	5,770	5,495	
Month	162,905	156,716	176,359	166,680	178,870	164,850	1,006,380
TEPETATE—NORTHEAST:							
Daily average	182	136	180	164	307	96	
Month	5,642	3,808	5,580	4,920	9,517	2,880	32,347
TIMBALIER BAY:							
Daily average	202	170	154	150	108	167	
Month	6,262	4,760	4,774	4,500	3,348	5,010	28,654
UNIVERSITY:							
Daily average	1,545	1,676	1,920	1,754	1,506	1,942	
Month	47,895	46,928	59,520	52,620	46,686	58,260	311,909
VALENTINE:							
Daily average	4,337	4,028	3,750	3,570	3,698	3,347	
Month	134,447	112,784	116,250	107,100	114,638	100,410	685,629
VENICE:							
Daily average	1,330	1,260	1,131	1,194	1,507	1,521	
Month	41,230	35,280	35,061	35,820	46,717	45,630	239,738
VILLA PLATTE:							
Daily average	5,827	6,455	7,468	7,983	8,350	9,399	
Month	180,637	180,740	231,508	239,490	258,850	281,970	1,373,195
VINTON:							
Daily average	1,188	1,170	1,223	1,193	1,247	1,272	
Month	36,828	32,760	37,913	35,790	38,657	38,160	220,108
WELSH:							
Daily average	27	25	26	29	24	25	
Month	837	700	806	870	744	750	4,707
WEST HACKBERRY:							
Daily average	3,720	3,624	3,351	3,337	3,555	3,214	
Month	115,320	101,472	103,881	100,110	110,205	96,420	627,408
WHITE CASTLE:							
Daily average	1,831	1,832	1,805	1,831	1,848	1,863	
Month	56,761	51,296	55,955	54,930	57,288	55,890	332,120
WOODLAWN:							
Daily average	1,122	1,065	1,029	1,028	1,220	1,347	
Month	34,782	29,820	31,899	30,840	37,820	40,410	205,571
WEST LAKE VERRET:							
Daily average	193	379	318	441	368	401	
Month	5,983	10,612	9,858	13,230	11,408	12,030	63,121
MISCELLANEOUS:							
Daily average	867	759	640	764	876	981	
Month	26,877	21,252	19,840	22,920	27,156	29,430	147,475
Daily average	189,481	190,704	190,813	192,830	192,963	195,420	192,034
First 6 months 1939	5,873,911	5,339,712	5,915,203	5,784,900	5,981,853	5,862,600	34,758,179
First 6 months 1938	5,362,349	4,918,340	5,535,763	5,405,100	5,487,403	5,510,700	32,219,655
First 6 months 1937	4,880,436	4,794,688	5,431,753	5,261,381	5,196,656	5,214,750	30,779,664

Miscellaneous pools and their total production for the first 6 months were: Anse La Butte, 13,032 bbl.; Bayou Blue, 6,966 bbl.; Bayou Bouillon, 5,162 bbl. Bayou Des Allemands, 17,591 bbl.; Big Lake, 6,519 bbl.; Cankton, 4,567 bbl.; De Large, 17,753 bbl.; Elton (South), 4,706 bbl.; Fausse Point, 4,377 bbl.; Hester, 13,206 bbl.; Lake Hermitage, 10,909 bbl.; Lirette, 2,507 bbl.; South Jennings, 11,827 bbl.; Welsh, 4,707 bbl.; Henderson, 558 bbl.; La Pice, 1,634 bbl.; Grand Lake, 19,711 bbl.; Kenilworth, 1,743 bbl.; total, 147,475 bbl.

opened by Pure Oil Co. No. 1 Franz Kohfeldt, which was completed for an initial production of 51 bbl. of 56.6-gravity distillate flowing through a 12/64-in. choke. Production is from the Frio sand through perforated casing at 8,495-8,505 ft. The well is about 2½ miles southeast of the field proper in the T. W. Johnson Survey.

The McCroskey field, Matagorda County, received its first Frio production as Pierce Estate No. 6-A fee was completed through perforated casing at 7,191-96 ft. It started at 175 bbl. daily, flowing through a ⅛-in. choke. The main production is from the Marginulina sand at approximately 6,000 ft.

LOUISIANA GULF COAST

Summary of Wells Completed First Half of 1939

Month—	Comp.	Prod.	Dry	Gas
Abbeville	1	211	0	0
Bancroft	17	4,870	0	0
Bateman Lake	2	376	0	0
Bayou Cocotriz	3	105	1	0
Bayou Blue	2	0	2	0
Bay St. Elaine	3	1,075	0	0
Bayou Bouillon	1	0	0	1
Bayou Des Allemonds	1	0	1	0
Bel	1	0	0	1
Caillou Island	4	642	2	0
Creole	3	601	0	1
Charenton	12	2,189	3	0
Choctaw	3	739	1	0
Chalkley	5	785	1	0
Chacahoula	2	670	1	0
Cheneyville	3	953	1	0
Cameron Meadows	1	125	0	0
Darrow	6	681	5	0
Dog Lake	2	42	0	0
East Baton Rouge	13	2,917	3	1
Eola	10	5,573	1	0
Edgerly	1	0	1	0
Fausse Point	1	0	1	0
Grand Bay	3	1,774	0	0
Golden Meadows	3	466	1	0
Gillis	3	380	1	0
Gueydan	1	0	1	0
Garden Island	3	844	0	0
Grand Lake	1	384	0	0
Hackberry	15	3,012	7	1
Horseshoe Bayou	1	25	0	0
Jeanerette	3	340	2	0
Jennings	24	7,032	4	0
Jefferson Island	1	292	0	0
Kenilworth	1	92	0	0
La Pice	1	47	0	0
La Fitte	4	3,288	1	0
Lake Mongoulois	1	59	0	0
Lirette	4	3	1	2
Lake Barre	1	0	1	0
Lake Hermitage	1	84	0	0
Lake Long	2	158	0	0
Lake Pelto	4	841	1	0
Lake Verret	1	210	0	0
Leesville	3	64	2	0
Lockport	1	0	1	0
North Crowley	4	2,078	1	0
New Iberia	16	2,577	2	0
North Tepetate	4	517	0	0
Paradis	1	120	0	0
Port Barre	3	792	1	0
Potash	2	620	0	0
Quarantine Bay	8	3,073	1	0
Raceland	4	660	2	0
Roanoke	3	0	3	0
South Roanoke	2	352	0	0
Sorrento	1	0	1	0
Starks	2	0	2	0
Sweet Lake	2	612	1	0
Sulphur	10	142	3	0
South Houma	2	615	1	0
Timbalier Bay	1	80	0	0
Valentine	6	1,091	2	0
Villa Platte	23	6,465	1	0
Venice	3	489	1	0
Vinton	4	139	2	0
West Gueydan	1	0	1	0
Woodlawn	4	505	1	0
Miscellaneous	34	0	34	0
Total	319	62,876	107	7

Completions by Months

Month—	Comp.	Prod.	Dry	Gas
January	52	14,336	16	1
February	67	9,141	29	2
March	36	7,482	14	1
April	43	7,058	12	0
May	54	9,706	21	0
June	67	15,153	15	3
Total first half 1939	319	62,876	107	7
Total same period 1938	239	60,573	88	4
Difference	80	2,303	19	3

Other fields receiving new sand discoveries or important extensions included the Turtle Bay field, Chambers County; Francitas, Jackson County; Satsuma and Goodykoontz area, Harris County. In Jackson County a consistent development program in the West Ranch field by Magnolia Petroleum Co. has extended production in an east and west direction for about 2 miles, while a deeper sand discovery 1½ miles north of production was made by Lonnie Glasscock No. 1 Drummond. This well logged slight showings of oil and gas in the regular sand at 5,100 ft., and good saturation in a deeper sand at 5,524-43 ft., where the well was completed for an initial production of 187 bbl. daily.

Semi-Annual Review

OPEN 21 POOLS IN SOUTHWEST TEXAS; TREND OPERATIONS SUCCESS

By F. L. SINGLETON

Another successful year of operations is indicated for the Southwest Texas district, as a total of 21 pools were opened and extensions and new sand discoveries were recorded for several of the older fields in the first half of the year. The Jim Wells County sector of the Frio-Vicksburg trend, which was placed in the limelight in March of last year with the discovery of the South Alice field, continues to be the most active area in the district, and seven new pools were opened in the county and important extensions made to the South Alice field.

Seven pools opened in Jim Wells County are in the early stages of development and the potentiality of most of them cannot be accurately measured at this time. Two fields, Blucher and La Gloria, are distillate producers. One outpost well was recently abandoned in the Blucher field, while at La Gloria Magnolia Petroleum Co. is testing an east outpost well. The Magnolia City field, several miles southeast of the South Alice field, does not look promising, as two tests offsetting the discovery well have been abandoned.

The Ben Bolt field appears to be one of the most important discoveries, as two wells offsetting the original well to the north and east logged more than 50 ft. of sand, and both wells were completed for good producers. The average sand thickness in most of the Jim Wells field is not over 20 ft.

South Alice's Rapid Growth

The South Alice field, which takes in the Tom Graham and East Alice area, has more than 105 producing wells, and at present development is largely confined to the extension 2½ miles southeast which was originally opened as a distillate area by the completion of Gravis & Doran No. 1 Clark at 4,805-14 ft. Oil production was opened later by Gravis & Buescher No. 1 Lillian Muil at 5,326-30 ft.

The Mellon Creek field, Refugio County, looms as an important discovery, due to a uniform sand section which corresponds to that of the Tomoconnor field, 2½ miles to the northeast. The field was discovered by the Copano Oil Co., which later sold its holdings to the Quintana Petroleum Corp., which is carrying on an orderly drilling campaign. In the same county, in the La Rosa field, Rutherford Oil Corp. opened production from a new sand with the completion of No. 1 Schirmer at 6,108-12 ft. This field, discovered last year, has proven to be an important reserve. There are 47 producing wells, and a total of five active operations are reported, with the field undefined in several directions.

Nueces County's New Pools

In Nueces County the Minnie Bock pool is considered an important discovery, as an extensive drilling cam-

(Continued on Page 116)

SOUTHWEST TEXAS
(Lower Gulf Coast)

Daily Average and Monthly Production in First Six Months of 1939

	January (bbl.)	February (bbl.)	March (bbl.)	April (bbl.)	May (bbl.)	June (bbl.)	Ttl. 6 mos. (bbl.)
AGUA DULCE:							
Daily average	582	580	449	383	447	267	
Month	18,042	16,240	13,919	11,490	13,857	8,010	81,558
BALDWIN:							
Daily average	318	339	307	352	319	287	
Month	9,858	9,492	9,517	10,560	9,889	8,610	57,926
BENTONVILLE:							
Daily average	733	738	744	720	841	650	
Month	22,723	20,664	23,064	21,600	26,071	19,500	133,622
CAESAR:							
Daily average	204	211	179	186	192	176	
Month	6,324	5,908	5,549	5,580	5,952	5,280	34,593
CLARA DISCOLL:							
Daily average	1,643	2,012	2,437	2,303	2,480	2,163	
Month	50,933	56,336	75,547	69,090	76,880	64,890	393,676
COLETO CREEK:							
Daily average	459	390	484	277	359	328	
Month	14,229	10,920	15,004	8,310	11,129	9,840	69,432
DIRKS:							
Daily average	2,074	1,946	1,958	1,923	1,819	1,653	
Month	64,294	54,488	60,698	57,690	56,389	49,590	343,149
EAST PLACEDO:							
Daily average	581	583	341	386	506	462	
Month	18,011	16,324	10,571	11,580	15,686	13,860	86,032
EAST PREMONT:							
Daily average	214	168	168	111	165	157	
Month	6,634	4,704	5,208	3,330	5,115	4,710	29,701
EAST WHITE POINT:							
Daily average	2,204	2,484	3,546	4,520	5,215	5,374	
Month	68,324	69,552	109,926	135,600	161,665	161,220	706,287
FLOUR BLUFF-BIRD ISLAND:							
Daily average	4,411	4,296	4,455	4,273	4,320	3,620	
Month	136,741	120,288	138,105	128,190	133,920	108,600	765,844
GRETA:							
Daily average	6,458	6,354	6,440	6,198	5,830	5,301	
Month	200,198	177,912	199,640	185,940	180,730	159,030	1,103,450
HEYSER:							
Daily average	9,377	8,597	10,171	10,628	8,652	7,875	
Month	290,687	240,716	315,301	318,840	268,212	236,250	1,670,006
KEERAN:							
Daily average	595	619	720	714	704	663	
Month	18,445	17,332	22,320	21,420	21,824	19,890	121,231
LA BLANCA:							
Daily average	401	331	149	101	261	261	
Month	12,431	9,268	4,619	3,030	8,091	7,830	45,269
LA ROSA:							
Daily average	684	426	2,363	2,201	1,981	2,240	
Month	21,204	11,928	73,253	66,030	61,411	67,200	301,026
LUBY:							
Daily average	6,524	6,744	7,219	7,412	7,503	6,247	
Month	202,244	188,832	223,789	222,360	232,593	187,410	1,257,228
McCAMPBELL:							
Daily average	5,644	6,034	8,744	9,039	8,698	8,565	
Month	174,964	168,952	271,064	271,170	269,638	256,950	1,412,738
McFADDIN:							
Daily average	1,699	1,796	2,489	2,295	2,077	2,112	
Month	52,669	50,288	77,159	68,850	64,387	63,360	376,713
McLON CREEK:							
Daily average	.....	.....	.....	.....	386	430	
Month	.....	.....	.....	.....	11,966	12,900	24,866
MIDWAY:							
Daily average	705	671	716	580	577	459	
Month	21,855	18,788	22,196	17,400	17,887	13,770	111,896
NORTH AGUA DULCE:							
Daily average	57	63	124	480	85	67	
Month	1,767	1,764	3,844	14,400	2,635	2,010	26,420
NORTH PETTUS:							
Daily average	1,147	1,126	1,053	1,062	1,039	946	
Month	35,557	31,528	32,643	31,860	32,209	28,380	192,177
O'CONNOR:							
Daily average	182	180	175	100	98	88	
Month	5,642	5,040	5,425	3,000	3,038	2,640	24,785

(Continued on Next Page)

SOUTHWEST TEXAS DISCOVERIES FIRST HALF OF 1939

Pool, county, company and farm name—	Survey	Date of completion	Producing formation	Producing depth	Initial production	No. prod. wells June 30
Adami, Webb, Johnson & Robinson No. 1 Adami	A.B.&M. No. 345	6-2	Cole	990-999	50 bbl. P.D. pumping	1
Ben Bolt, Jim Wells, Bridwell Oil Co. No. 1 Smith	La Trinidad	5-26	Frio-Vicksburg	5,242-46	145 bbl. P.D. ½-in. choke	1
Blucher, Jim Wells, Shell Oil Co., Inc., No. 1 Von Blucher	Lucinda Vest	2-3	Frio-Vicksburg	7,555-60	28 bbl. P.D. ½-in. choke	1
Camada, Jim Wells, Parr Drlg. Co. No. 1 Hoffman	San Leandro gr.	5-26	Frio-Vicksburg	5,625-40	37 bbl. P.D. ½-in. choke	2
East Mathis, San Patricio, Seaboard Oil Co. No. 1 Person	A.B.&M. No. 6	6-16	Frio	5,260-68	54 bbl. P. D. ½-in. choke	1
La Gloria, Jim Wells, Magnolia Pet. Co., No. 1 Maun	Ignacio De La Pena	3-24	Frio-Vicksburg	6,560-70	165 bbl. P.D. ½-in. choke	1
Mellon Creek, Refugio, Copano Oil Co. No. 1-C O'Connor	Timothy Hoyt	2-17	Frio	5,855-75	107 bbl. P.D. ½-in. choke	7
Minnie Bock, Nueces, Texas Conservative Co. No. 1 M. Bock	Geo. H. Pauls Subd.	5-26	Heterostegina	3,806-14	121 bbl. P.D. 5/32-in. choke	3
Muralla, Duval, J. B. Blanchard No. 1 Parr	T. C. Rogers No. 298	5-19	Pettus	4,710-15	22 bbl. P.D. 3/32-in. choke	1
North Luby, Nueces, Seaboard Oil Co. No. 1 La Prelle	Canutillo Colony Ditch Co.	6-2	Catahoula	4,347-54	168 bbl. P.D. ¼-in. choke	1
North Ricaby, Starr, Bishop & Moss No. 1 Ricaby	Martinez Porcion 83	5-21	Mirando	1,294-1,305	120 bbl. P.D. pumping	1
Reynolds, Jim Wells, Texas Gulf Prod. Co. No. 1 Miller	Casa Blanca gr.	6-30	Frio-Vicksburg	5,143-49	55 bbl. P.D. 7/64-in. choke	1
Red Rock, Bastrop, Joe Hughes No. 1 Lentz	F. Wilkinson	5-26	Chalk	2,283-2,428	65 bbl. 12 hr. pumping	1
South Alfred, Jim Wells, Ike Howeh No. 1 Adams	Wm. Adams	4-21	Frio-Vicksburg	4,661-74	135 bbl. ¾-in. choke	3
Southland, Duval, Henderson Coquat No. 1 Southland Life Ins. Co.	Santos Flores	4-14	Pettus	5,275-98	145 bbl. P.D. 5/32-in. choke	1
Volpe, Webb, Magnolia Pet. Co. No. 1 Volpe-Benavides	B.S.&F.	6-23	Mirando	2,458-66	50 bbl. 12 hr. pumping	1
White Creek, Live Oak, Holland & Smith No. 1 Bonham	B.S.&F. No. 59	2-10	Govt. Wells sd.	1,390-97	27 bbl. P.D. pumping	2
Glenn, Guadalupe, Frank Glenn No. 1 Appling	H. Cottle	2-17	Doble lime	1,960-2,182	18 bbl. P.D. pumping	1
Kingsbury, Guadalupe, J. Holefield No. 1 Broadney	J. King	2-27	Doble lime	2,161	21 bbl. 39 hr. pumping	1
Magnolia City, Jim Wells, F. A. Gillespie No. 1 Shear	A.B.&M.	5-5	Frio-Vicksburg	5,439-46	108 bbl. P.D. ¼-in. choke	1
Chilpin Creek, Duval, Wm. Nichols No. 1 Graham	Cuadrilla Irrg. Co. No. 572	6-19	Pettus	4,784-90	Gas well	1

. . . When You Use PURCHASED ELECTRIC POWER!!

As a reminder, let us call your attention again to some of the important advantages offered by Purchased Electric Power:

Lower first cost; lower maintenance cost; lower fixed charges (taxes, interest, insurance, depreciation, etc.); continuous operation — greater efficiency — no power to pay for which you do not use; longer life, fewer repairs, smoother operation; not affected by bad weather or shortage of water; and high salvage value in electric equipment — easily moved.

If you are interested in getting more efficiency for your power dollar, ask your nearest Electric Power Company for facts concerning your power problems. Advice will be gladly given without obligation on your part!

PETROLEUM ELECTRIC POWER ASSOCIATION

Box 1498, Oklahoma City, Oklahoma

SOUTHWEST TEXAS (Continued)

	January (bbl.)	February (bbl.)	March (bbl.)	April (bbl.)	May (bbl.)	June (bbl.)	Ttl. 6 mos. (bbl.)
OAKVILLE:							
Daily average	171	196	164	202	187	150	
Month	5,301	5,488	5,084	6,060	5,797	4,500	32,230
PETTUS:							
Daily average	522	521	528	550	840	582	
Month	16,182	14,588	16,368	16,500	26,040	17,460	107,138
PLACEDO:							
Daily average	6,842	7,110	6,907	6,439	6,210	5,649	
Month	212,102	199,080	214,117	193,170	192,510	169,470	1,180,449
PLUMMER:							
Daily average	227	227	192	225	241	218	
Month	7,037	6,356	5,952	6,750	7,471	6,540	40,106
PLYMOUTH:							
Daily average	12,891	13,295	13,371	12,062	12,577	10,657	
Month	399,621	372,260	414,501	361,860	389,887	319,710	2,257,839
PREMONT:							
Daily average	216	333	393	400	325	238	
Month	6,696	9,324	12,183	12,000	10,075	7,140	57,418
RAY:							
Daily average	292	254	250	241	263	239	
Month	9,052	7,112	7,750	7,230	8,153	7,170	46,467
REFUGIO:							
Daily average	5,395	5,959	6,179	5,749	5,138	4,650	
Month	167,245	166,852	191,549	172,470	159,278	139,500	996,894
SAXET:							
Daily average	28,118	29,360	28,792	28,707	26,408	24,116	
Month	871,658	822,080	892,552	861,210	818,648	723,480	4,989,628
SAXET HEIGHTS:							
Daily average	1,887	1,694	1,660	1,364	1,469	1,077	
Month	58,497	47,432	51,460	40,920	45,539	32,310	276,158
SOUTH ALICE:							
Daily average	3,020	3,229	4,189	4,302	3,516	4,082	
Month	93,620	90,412	129,859	129,060	108,996	122,460	674,407
SOUTH BURNELL:							
Daily average	842	839	823	666	627	571	
Month	26,102	23,492	25,513	19,980	19,437	17,130	131,654
SOUTH CLARA DRISCOLL:							
Daily average	642	812	751	735	740	592	
Month	19,902	22,736	23,281	22,050	22,940	17,760	128,669
STRATTON:							
Daily average	326	.....	1,200	1,038	340	283	
Month	10,106	.....	37,200	31,140	10,540	8,490	97,476
TAFT:							
Daily average	2,187	2,245	2,257	2,130	2,152	1,842	
Month	67,797	62,860	69,967	63,900	66,712	55,260	386,496
TOMOCONNOR:							
Daily average	13,507	13,641	13,854	13,092	12,429	11,392	
Month	418,717	381,948	429,474	392,760	385,299	341,760	2,349,958
TULETA:							
Daily average	274	309	218	210	232	221	
Month	8,494	8,652	6,758	6,300	7,192	6,630	44,026
WEST SAXET:							
Daily average	3,479	3,576	3,588	3,761	3,754	3,200	
Month	107,849	100,128	111,228	112,830	116,374	96,000	644,409
MISCELLANEOUS:							
Daily average	720	747	889	759	943	958	
Month	22,320	20,916	27,559	22,770	29,233	28,740	151,538
Daily average	128,454	131,035	141,636	138,876	132,945	121,108	
First 6 months 1939	3,982,074	3,668,980	4,390,776	4,166,280	4,121,295	3,633,240	23,962,585
First 6 months 1938	3,590,327	3,254,556	3,727,463	3,684,780	3,545,067	3,362,970	21,165,153
First 6 months 1937	3,139,680	3,283,392	3,869,699	3,655,650	3,960,312	3,744,420	21,653,153

Miscellaneous pools and their production for the 6 months are Alfred, 5,000 bbl.; Angelita, 2,545 bbl.; Bonnieview, 3,222 bbl.; Chapman Ranch, 1,372 bbl.; East Telferner, 6,197 bbl.; Foley, 4,579 bbl.; Hordes Creek, 4,614 bbl.; Kingsville, 8,417 bbl.; Las Mestenas, 13,879 bbl.; London, 6,160 bbl.; Lucas, 11,022 bbl.; Magnolia City, 4,290 bbl.; McAllen, 1,004 bbl.; McNeil, 11,468 bbl.; Mercedes, 18,699 bbl.; Normana, 4,755 bbl.; North Lucas, 3,576 bbl.; North McFaddin, 3,806 bbl.; Port Lavaca, 2,481 bbl.; Riverside, 8,206 bbl.; Sandia, 310 bbl.; Sarco, 183 bbl.; Sinton, 2,656 bbl.; Slick, 1,224 bbl.; South Alfred, 3,940 bbl.; Tulsita, 1,795 bbl.; Voss, 1,505 bbl.; White Point, 9,653 bbl.; North Luby, 1,530 bbl.; Minnie Bock, 2,100 bbl.; Ben Bolt, 1,350 bbl. Total, 151,538 bbl.

(Laredo District)

	January (bbl.)	February (bbl.)	March (bbl.)	April (bbl.)	May (bbl.)	June (bbl.)	Ttl. 6 mos. (bbl.)
ALTA MESA:							
Daily average	495	479	490	397	450	450	
Month	15,345	13,412	15,190	11,910	13,950	13,500	83,307
AVIATOR:							
Daily average	320	321	438	350	311	260	
Month	9,920	8,988	13,578	10,500	9,641	7,800	60,427
BENAVIDES:							
Daily average	10,728	13,104	10,253	10,014	7,891	7,829	
Month	332,568	366,912	317,843	300,420	244,621	234,870	1,797,234
CALLIHAM:							
Daily average	163	168	152	148	179	147	
Month	5,053	4,704	4,712	4,440	5,549	4,410	28,868
CASA BLANCA:							
Daily average	512	581	690	459	449	409	
Month	15,872	16,268	21,390	13,770	13,919	12,270	93,489
CHARAMOUSCA:							
Daily average	226	257	314	565	427	533	
Month	7,006	7,196	9,734	16,950	13,237	15,990	70,113
COLMENA:							
Daily average	282	248	262	253	213	229	
Month	8,742	6,944	8,122	7,590	6,603	6,870	44,871
COLORADO:							
Daily average	292	237	199	208	146	227	
Month	9,052	6,636	6,169	6,240	4,526	6,810	39,433
COMITAS:							
Daily average	636	702	844	771	789	723	
Month	19,716	19,656	26,164	23,130	24,459	21,690	134,815
CUEVITAS:							
Daily average	584	584	584	529	448	408	
Month	18,104	16,352	18,104	15,870	13,888	12,240	94,558
DRISCOLL:							
Daily average	2,252	2,404	2,251	2,238	1,126	1,115	
Month	69,812	67,312	69,781	67,140	34,906	33,450	342,401
EAGLE HILL:							
Daily average	714	666	624	822	779	688	
Month	22,134	18,648	19,344	24,660	24,149	20,640	129,575
ESCOBAS-JENNINGS:							
Daily average	1,808	2,027	2,162	3,342	2,040	1,855	
Month	56,048	56,756	67,022	100,260	63,240	55,650	398,976
EZZELL:							
Daily average	3,263	3,439	3,756	3,400	3,694	2,947	
Month	101,153	96,292	116,436	102,000	114,514	88,410	618,805
FITZSIMMONS:							
Daily average	2,235	2,645	2,994	2,698	2,191	2,124	
Month	69,285	74,060	92,814	80,940	67,921	63,720	448,740
GOVERNMENT WELLS:							
Daily average	10,559	10,475	10,450	11,372	10,208	9,280	
Month	327,329	293,300	323,950	341,160	316,448	278,400	1,880,587
HOFFMAN:							
Daily average	4,566	4,923	5,194	4,528	4,384	4,210	
Month	141,546	137,844	161,014	135,840	135,904	126,300	838,448
JACOBS:							
Daily average	484	426	387	327	446	402	
Month	15,004	11,928	11,997	9,810	13,826	12,060	74,625
KELSEY:							
Daily average	32	314	603	374	623	762	
Month	992	8,792	18,693	11,220	19,313	22,860	81,870

(Continued on Next Page)

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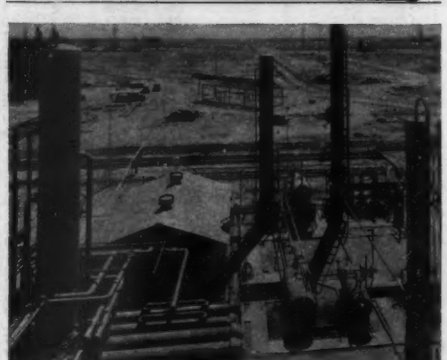

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RECTORSEAL
THE POSITIVE LEAK PREVENTER

paign is underway following the completion of three oil wells in the 3,800-ft. sand. The field was opened by Texas Conservative Oil Co. No. 1 Minnie Bock, which was completed in the Heterostegina sand at 3,804-14 ft. It has been estimated that production from the 3,800-ft. sand will extend over approximately 2,000 acres and that prospects of finding production from a deeper horizon are encouraging. Prospects of the North Luby field becoming an important reserve are discouraging, as Seaboard Oil Co. abandoned its second well offsetting

(Continued on Page 128)

SOUTHWEST TEXAS

Summary of Wells Completed First Half of 1939

Field—	Comp.	Prod.	Dry	Gas
Agua Dulce	10	170	2	5
Adams	1	72	0	0
Alice	51	3,554	7	2
Alta Mesa	1	0	1	0
Angelita	1	20	0	0
Batesville	2	0	2	0
Benavides	15	1,226	3	0
Branyon	8	587	4	0
Blucher	2	28	1	0
Bonnieview	2	0	1	1
Bird Island	1	68	0	0
Byersville	1	0	1	0
Ben Bolt	2	• 295	0	0
Church	2	0	2	0
Casa Blanca	12	440	4	0
Clara Driscoll	28	2,462	2	3
Coffey	5	78	2	0
Comitas	17	812	5	0
Calliham	4	5	3	0
Carroll	1	10	0	0
Cedro Hill	11	554	0	1
Chacon Lake	8	6	4	0
Colorado	3	174	1	0
Colmena	1	0	1	0
Camada	3	37	1	1
Campana	2	0	2	0
Cedar Creek	1	0	1	0
Dale	8	390	4	0
Darst Creek	25	1,556	3	0
Driscoll	6	758	1	0
Dunlap	2	37	0	0
Dunlay	1	0	1	0
Eagle Hill	9	388	2	0
East Placedo	2	167	0	1
El Mesquite	1	0	1	0
East White Point	65	8,873	0	2
Ezzell	57	6,509	10	1
Escobas	6	225	1	0
Eckert	2	0	2	0
East Premont	2	1,080	0	0
East Mathis	1	54	0	0
Fitzsimmons	24	2,790	1	1
Flour Bluff	1	221	0	0
Fox	1	349	0	0
Glenn	1	18	0	0
Heyser	24	3,239	2	2
Hoffman	44	3,861	6	0
Junction	1	0	0	1
Kelsey	23	2,272	2	0
Keeran	4	175	0	1
Killam	6	155	1	1
Kimbro	4	9	2	0
Kingsbury	1	39	0	0
Lentz	1	65	0	0
La Rosa	37	5,277	2	0
Longhorn	18	2,838	1	0
Luby	20	2,450	0	0
Luling	8	460	0	0
Lundell	12	1,276	0	2
La Gloria	1	165	0	0
Lomo Novia	2	0	2	0
La Sal Vieja	1	0	1	0
Minnie Bock	2	240	0	0
McCampbell	108	17,871	0	1
McFaddin	25	2,714	1	0
Munson	7	816	0	0
Manda	1	0	1	0
McAllen	1	90	0	0
Mellon Creek	8	1,726	1	1
Mirando Valley	23	1,661	1	0
Margo	1	0	1	0
Magnolia City	2	108	1	0
Muralla	1	22	0	0
North Killam	8	303	3	0
North Agua Dulce	2	0	1	1
North Luby	2	73	1	0
North McFaddin	1	0	0	1
North Ricaby	1	75	0	0
O'Hern	2	130	0	0
Oakville	6	308	2	0
Piedra De Lumbre	27	5,557	0	1
Plymouth	8	948	0	0
Premont	1	0	1	0
Piedra Pintas	1	60	0	0
Palanaga	1	0	1	0
Rancho Solo	11	556	4	0
Refugio	11	1,374	0	0
Ricaby	1	225	0	0
Rockdale	7	12	3	0
Riverside	6	153	4	0
Rhodes	1	0	1	0
Ramirena	1	0	1	0
Richard King	3	387	0	0
Riddle	2	0	2	0
Rincon	1	145	0	0
Reynolds	1	55	0	0
Schattel	2	0	2	0
Salt Flat	25	1,712	1	0
Samfordyce	18	1,548	1	0
Saxet	17	1,617	1	1
South Clara Driscoll	4	498	1	0
Sisterdale	1	0	1	0
Stratton	1	50	0	0
Sun	11	660	4	2
Somerset	3	23	0	0
South Alfred	3	427	1	0
South Ricaby	4	100	3	0
Southland	1	145	0	0
Slick	1	0	1	0
S. R. C.	2	137	0	0
Tesoro	5	229	2	1
Tomoconnor	23	18,317	0	0
Tulsita	2	18	1	0
Turney	1	5	0	0
Volpe	1	50	0	0
Von Ormy	7	17	2	0
Von Ormy—South	1	1	0	0
West Saxet	8	873	0	0
Walnut Creek	2	0	2	0
Weser	2	12	0	0
White Point	1	112	0	0
White Creek	8	192	5	0
Woods	1	0	1	0
Yost	2	5	1	0
Zoboroski	1	7	0	0
Miscellaneous	204	0	203	1
Total	1,262	118,658	358	35

Completions by Months

Month—	Comp.	Prod.	Dry	Gas
January	175	18,135	45	5
February	247	24,619	62	8
March	215	20,111	65	8
April	189	20,745	49	4
May	264	19,971	87	8
June	172	15,077	50	2
Total first half 1939	1,262	118,658	358	35
Total same period 1938	1,249	132,081	351	58
Difference	13	13,423	7	23

SOUTHWEST TEXAS—(Laredo District, Continued)

	January (bbl.)	February (bbl.)	March (bbl.)	April (bbl.)	May (bbl.)	June (bbl.)	Ttl. 6 mos. (bbl.)
KILLAM:							
Daily average	617	696	642	594	535	487	
Month	19,127	19,488	19,902	17,820	16,585	14,610	107,532
KOHLER:							
Daily average	318	347	595	458	31	83	
Month	9,858	9,716	18,445	13,740	961	2,490	55,210
LABBE:							
Daily average	210	216	230	267	235	214	
Month	6,510	6,048	7,130	8,010	7,285	6,420	41,403
LOMA NOVIA:							
Daily average	10,950	10,999	10,791	11,378	11,402	10,368	
Month	339,450	307,972	334,521	341,340	353,462	311,040	1,987,785
LONGHORN:							
Daily average	241	327	654	949	906	1,188	
Month	7,471	9,156	20,274	28,470	28,086	35,640	129,097
LOPEZ:							
Daily average	5,135	5,227	5,170	5,788	5,654	4,914	
Month	159,185	146,356	160,270	173,640	175,274	147,420	962,145
LUNDELL:							
Daily average	486	642	667	665	760	646	
Month	15,066	17,976	20,677	19,950	23,560	19,380	116,609
MIRANDO VALLEY:							
Daily average	291	290	527	589	516	533	
Month	9,021	8,120	16,337	17,670	15,996	15,990	83,134
MIRANDO CITY:							
Daily average	353	344	320	376	377	360	
Month	10,943	9,632	9,920	11,280	11,687	10,800	64,262
MOCA:							
Daily average	322	322	320	352	384	376	
Month	9,982	9,016	9,920	10,560	11,904	11,280	62,662
MUNSON:							
Daily average	48	220	412	326	235	216	
Month	1,488	6,160	12,772	9,780	7,285	6,480	43,965
O'HERN:							
Daily average	5,491	5,778	5,503	5,290	5,185	4,715	
Month	170,221	161,784	170,593	158,700	160,735	141,450	963,483
OILTON:							
Daily average	1,474	1,469	1,265	1,204	1,258	1,167	
Month	45,694	41,132	39,215	36,120	38,998	35,010	236,169
PIEDRA DE LUMBRE:							
Daily average	945	993	1,025	1,219	1,282	1,228	
Month	29,295	27,804	31,775	36,570	39,742	36,840	202,026
RANCHO SOLO:							
Daily average	243	326	348	514	390	355	
Month	7,533	9,128	10,788	15,420	12,090	10,650	65,609
RANDADO:							
Daily average	250	250	250	284	266	244	
Month	7,750	7,000	7,750	8,520	8,246	7,320	46,586
RICABY:							
Daily average	404	476	390	313	359	365	
Month	12,524	13,328	12,090	9,390	11,129	10,950	69,411
SAMFORDYCE:							
Daily average	2,294	2,297	2,446	2,212	2,250	2,265	
Month	71,114	64,316	75,826	66,360	69,750	67,950	415,316
SARNOSA:							
Daily average	571	575	532	594	605	550	
Month	17,701	16,100	16,492	17,820	18,755	16,500	103,368
SEVEN SISTERS:							
Daily average	6,504	6,374	6,534	7,290	7,693	6,995	
Month	201,624	178,472	202,554	218,700	238,483	209,850	1,249,683
SUN:							
Daily average	219	356	444	472	356	370	
Month	6,789	9,968	13,764	14,160	11,036	11,100	66,817
SWEDEN:							
Daily average	241	400	654	946	144	131	
Month	7,471	11,200	20,274	28,380	4,464	3,930	75,719
TESORO:							
Daily average	422	285	285	405	341	310	
Month	13,082	7,980	8,835	12,150	10,571	9,300	61,918
MISCELLANEOUS:							
Daily average	684	678	676	713	763	783	
Month	21,204	18,984	20,956	21,390	23,963	23,490	129,987
Daily average	78,864	83,887	83,327	85,993	78,731	73,461	80,671
First 6 months 1939	2,444,784	2,348,836	2,583,137	2,579,790	2,440,661	2,203,830	14,601,038
First 6 months 1938	2,373,019	2,131,696	2,373,459	2,630,340	2,491,594	2,189,820	14,189,928
First 6 months 1937	2,110,542	2,338,672	2,635,930	2,285,520	2,426,029	2,318,700	14,115,393

Miscellaneous pools and their production for the 6 months were: Albercas, 8,563 bbl.; Alta Verde, 1,500 bbl.; Barbacoas, 1,241 bbl.; Carolina-Tex, 1,351 bbl.; Cedro Hill, 12,831 bbl.; Charco Redondo, 1,250 bbl.; Henne-Winch-Farris, 966 bbl.; La Reforma, 3,558 bbl.; Las Animas, 10,727 bbl.; Loma Alta, 12,694 bbl.; Loma Vista, 1,545 bbl.; Los Olmos, 17,038 bbl.; North Killam, 17,184 bbl.; Peters, 11,770 bbl.; Piedra Pintas, 2,177 bbl.; Rincon, 1,552 bbl.; Rio Grande, 18,531 bbl.; Southland, 4,609 bbl.; Murralle, 900 bbl.; total, 129,987 bbl.

(San Antonio District)

	January (bbl.)	February (bbl.)	March (bbl.)	April (bbl.)	May (bbl.)	June (bbl.)	Ttl. 6 mos. (bbl.)
BRANYON:							
Daily average	1,850	1,740	1,843	1,829	1,956	1,739	
Month	57,350	48,720	57,133	54,870	60,636	52,170	330,879
BUCHANAN:							
Daily average	143	157	134	126	165	142	
Month	4,433	4,396	4,154	3,780	5,115	4,260	26,138
CHAPMAN:							
Daily average	195	218	247	144	190	170	
Month	6,045	6,104	7,657	4,320	5,890	5,100	35,116
DALE:							
Daily average	206	203	234	298	314	275	
Month	6,386	5,684	7,254	8,940	9,734	8,250	46,248
DARST CREEK:							
Daily average	7,437	7,162	7,581	8,322	8,213	7,483	
Month	230,547	200,536	235,011	249,660	254,603	224,490	1,394,847
HILBIG:							
Daily average	307	284	297	333	326	282	
Month	9,517	7,952	9,207	9,990	10,106	8,460	55,232
LULING:							
Daily average	6,899	6,819	6,755	7,195	7,200	6,503	
Month	213,869	190,932	209,405	215,850	223,200	195,090	1,248,346
LYTTON SPRINGS:							
Daily average	294	292	305	292	290	265	
Month	9,114	8,176	9,455	8,760	8,990	7,950	52,445
MINERVA:							
Daily average	219	195	205	190	157	196	
Month	6,789	5,460	6,355	5,700	4,867	5,880	35,051

(Continued on Page 128)

Semi-Annual Review

ONE OF EVERY THREE WILDCAT TESTS IN KANSAS FINDS OIL OR GAS

By DAL DALRYMPLE

Wildcat operators in Kansas apparently are headed for new records of discovery in 1939. Although the number of wildcat tests drilled in the first half of this year was less than that of the corresponding period in 1938, the number of discoveries surpassed that of the earlier period.

One of every three wildcat completions in Kansas in the first half of this year was a discovery.

In addition to adding three new counties to the productive list and opening several new pools in widely separated parts of the state, numerous extensions to old areas were completed and several proven pools were united.

Field activity generally declined considerably under that of 1938, but despite the curtailment of drilling the total potential soared to new all-time highs due to discoveries, development of gusher production in the Hittle pool, intensive development of Misener sand production in the Zenith area and completion of large wells in other major fields.

Here is how the record of wildcat exploration in the first half of 1939 compares with the corresponding period of 1938:

	1938	1939
Oil discoveries	29	31
Gas discoveries	2	3
Dry holes	110	61
Percentage oil	20.6	32.6
Percentage gas	1.4	3.2
Percentage dry	78.0	64.2

Presuming the 1939 pace is maintained through the remainder of the year—just doubling the first six months record—the results of the 2 years will compare thus:

	1938	1939
Oil discoveries	61	62
Gas discoveries	6	6
Dry holes	186	122
Percentage oil	24.1	32.6
Percentage gas	2.4	3.2
Percentage dry	73.5	6.42

The 1939 record then would surpass that of 1938, both numerically and in percentage of successful completions.

In Forest City Basin

Indications at midyear were that wildcat exploration would increase during the last 6 months. Activity in the Kansas sector of the Forest City basin, in the northeastern part of the state, will account for a part of the anticipated increase.

Thousands of acres have been leased in northeastern Kansas, and it was thought at least 20 wildcats would be drilled in that sector this year. An important strike at any of the Forest City basin wildcats naturally would encourage additional exploration.

Since June 30 work has been started at a wildcat in Atchison County, currently being the farthest northeast well in the state. It is to be a deep test. Other wildcats have been started in Douglas, Franklin, Jackson, Jefferson, Johnson, Miami and Osage counties, in or on the flanks of the Forest City basin. Location has been made for a second wildcat to be drilled in Shawnee County, a failure having been recorded in that county earlier in the year. A shallow hole was drilled in Leavenworth County early in the year, and it is thought likely it may be deepened or another test started in that county. Much land has been leased in Brown and Doniphan, farthest northeast counties, and while no locations had been announced at midyear it was thought probable wildcats would be started in one or both of those counties later this year.

Johnson County Activity

Shallow pools were opened by two wildcats in Johnson County in May, the new area being called the Gardner field. Several other shallow wells have been completed in the field since completion of the discovery wells, and five rigs were running at time of writing.

That little splurge at Gardner is but indicative of what may be expected in northeastern Kansas if, when and as other pools are opened. An important strike at a deep test anywhere in the Kansas sector of the Forest City basin undoubtedly would start a considerable drilling boom.

The tried and proven central, western and southern counties will continue attractive to wildcat operators. The bulk of the exploration will continue to be in Barton, Cowley, Ellis, Reno, Rice, Russell and Stafford counties, for it is in those counties that a majority of the more important strikes have been made in the last two years, and many favorable structures remain to be tested.

The records of discovery in Barton, Rice and Russell counties were outstanding in the first half of the year. Seventeen wildcats were completed in Barton County, seven finding oil production, one gas and nine were failures. In Rice County, 12 wildcats were completed with six finding oil while six were dry. In Russell County, five of eight wildcats completed found oil, the others being dry.

In addition to counties already mentioned wildcats were being drilled at midyear in Butler, Comanche, Dickinson, Ellsworth, Geary, Gray, Greenwood, Harvey, Haskell, Kingman, Kiowa, Marion, Rooks, Sherman, Sumner and Woodson counties. Sedgwick County since has been returned to the active wildcat list.

KANSAS

Summary of Wells Completed First Half of 1939

County—	Comp.	Prod.	Dry	Gas
Barber	7	235	3	3
Barton	75	24,283	27	1
Butler	33	692	10	2
Chase	1	0	1	0
Coffey	1	0	1	0
Cowley	48	32,724	15	1
Ellis	28	15,969	3	0
Ellsworth	21	8,153	3	0
Graham	3	1,642	0	0
Grant	2	0	0	2
Greenwood	24	393	10	2
Harvey	5	708	3	0
Johnson	10	95	2	3
Kingman	4	656	2	0
Marion	5	225	3	0
McPherson	17	2,335	6	0
Meade	1	0	1	0
Norton	1	173	0	0
Ottawa	1	0	1	0
Phillips	1	827	0	0
Pratt	5	97	0	4
Reno	11	2,503	3	0
Rice	81	28,440	8	1
Rooks	6	852	2	0
Russell	85	34,318	9	1
Rush	2	280	1	0
Saline	1	0	1	0
Scott	1	749	0	0
Sedgwick	8	683	5	1
Shawnee	1	0	1	0
Sherman	1	0	0	1
Stafford	55	18,448	7	0
Stevens	2	0	0	2
Sumner	6	462	1	0
Woodson	5	20	4	0
Total	558	175,962	133	24

Completions by Months

Month—	Comp.	Prod.	Dry	Gas
January	69	22,132	18	2
February	92	24,414	25	3
March	86	27,423	21	5
April	79	31,309	21	3
May	93	28,087	19	4
June	139	42,597	29	7
First half, 1939	558	175,962	133	24
First half, 1938	858	422,954	232	42
Difference	300	246,992	99	18

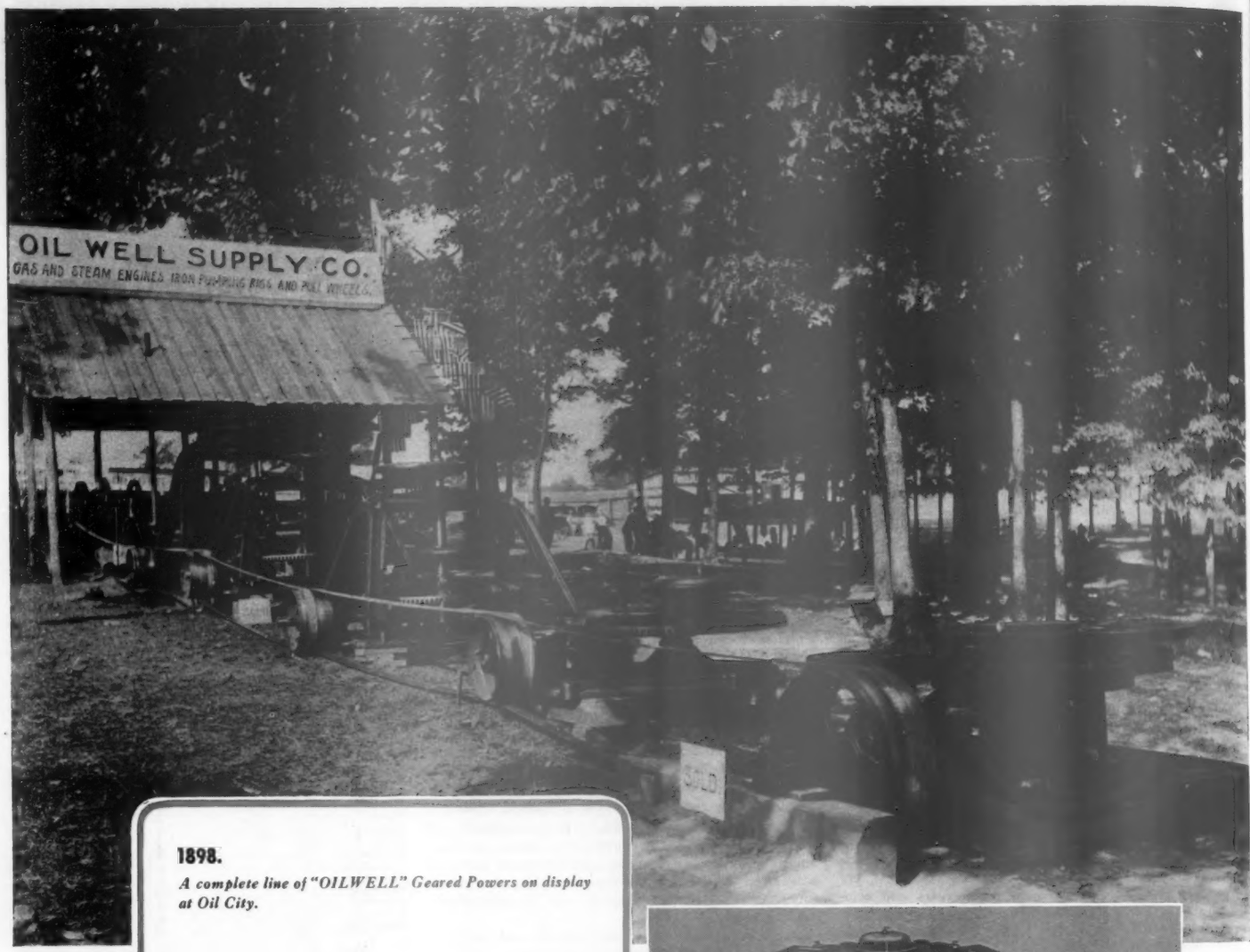
Near Nebraska Line

Oil production was extended to within 22 and 28 miles of the Nebraska State line by respective discoveries in Norton and Phillips counties in June. This is

(Continued on Page 122)

KANSAS DISCOVERIES FIRST HALF OF 1939

Field and county—	Location	Operator—	Comp. week end	No. wells	Producing formation	Total depth, ft.	Initial potential (bbl.)
North Fairfield, Russell	16-15-13w	Earl Wakefield and others	Jan. 3	4	Lansing lime	3,112	837
Coralena extension, Russell	7-15-13w	Yankey & Stearns	Jan. 12	35	Lansing lime	3,329, P.B. to 3,244	795
Proffitt, Rice	12-20-10w	J. H. Tatlock	Feb. 9	1	Arbuckle	3,335	298
Campbell extension, Rice	33-19- 9w	Cities Service Oil Co.	Feb. 9	16	Arbuckle	3,195	1,540
Peavey (now Burnett), Ellis	13-11-18w	Darby Pet. Corp.	Feb. 23	6	Arbuckle	3,411	2,275
Kruckenberg, Barton	14-19-15w	Amerada Pet. Corp.	Feb. 23	1	Arbuckle	3,632	132
Ainsworth-Topeka, Barton	35-16-13w	Skelly Oil Co.	Mar. 2	1	Topeka	3,382, P.B. to 2,929	451
Morel extension, Graham	16- 9-21w	Continental Oil Co.	Mar. 9	4	Arbuckle	3,702	1,043
Coralena-Dodge, Russell	5-15-13w	R. H. Shields	Mar. 9	1	Dodge lime	2,976, P.B. to 2,895	603
Prusa gas, Barton	17-16-11w	Sinclair Prairie Oil Co.	Mar. 16	1	Lansing	3,263	28,500,000 ft. gas
Leesburgh extension, Stafford	13-25-13w	Continental Oil Co.	Mar. 23	6	Arbuckle	4,075	2,843
Beaver shallow, Barton	8-16-12w	Martin & Hearing	April 20	1	Topeka	2,906	2,548
Ferrell, Butler	28-28- 8e	Hay, Hall & Table Mesa	April 6	1	Mississippi	2,689½	35
Chindberg extension, McPherson	7-19- 2w	Marylyn Oil Co.	April 6	..	Chat	3,019½	10
Militz, Marion	24-17- 4e	Johnson and others	April 13	1	Chat	2,485	5
Medicine Lodge, extension, Barber	17-33-13w	Barbara Oil Co.	April 13	..	Chat	5,201, P.B. to 4,706	3,871,000 ft. gas
Southwest Letsch, Russell	33-14-13w	Skelly Oil Co.	April 20	1	Lansing	2,869½	524
Marchant, Barton	24-20-12w	York State Oil Co.	April 20	2	Arbuckle	3,320	559
Kruckenberg-Lansing, Barton	14-19-15w	Amerada Pet. Corp.	April 27	1	Lansing	3,470, P.B. to 3,395	437
Goodrich-Lansing, Sedgwick	21-25- 1e	Fuller & Ace Oil Co.	April 27	33	Lansing	2,280	1,975
Gardner, Johnson	20-14-22e	Sagamore O. & G. Co.	May 4	5	Bartlesville	894	25
Gardner, Johnson	15-14-22	OK Supply Co.	May 18	5	Squirrel-Bartlesville	850	42
Bloomer extension, Ellsworth	29-17-10w	Gulf Oil Corp.	May 25	89	Arbuckle	3,272	716
Midway, Rice	8-20- 9w	Phillips Pet. Co.	June 1	1	Arbuckle	3,259	133
Chase extension, Rice	36-19-10w	Gulf Oil Corp.	June 1	224	Arbuckle	3,283	327
Van Patten, Norton	26- 4-21w	Power Oil and Olson Oil Co.	June 8	1	Lansing	3,665	173
West Marchant, Barton	23-20-12w	E. E. Ash and Crown Pet. Co.	June 8	1	Arbuckle	3,358	273
Goodland, Sherman	30- 8-39w	Goodland Ind. Gas Co.	June 15	1	Cretaceous	1,307	75,000 ft. gas
Silica extension, Rice	35-19-10w	Phillips Pet. Co.	June 15	470	Arbuckle	3,306	312
Barngrover (now Chase), Rice	30-19- 9w	Gulf Oil Corp.	June 15	224	Arbuckle	3,284	1,322
Bow Creek, Phillips	25- 5-18w	Blue Stem Oil Co.	June 22	1	Lansing	3,080	827
Max-Lans., Stafford	35-21-12w	Trigg Drlg. Co. and others	June 29	1	Lansing	3,658	881



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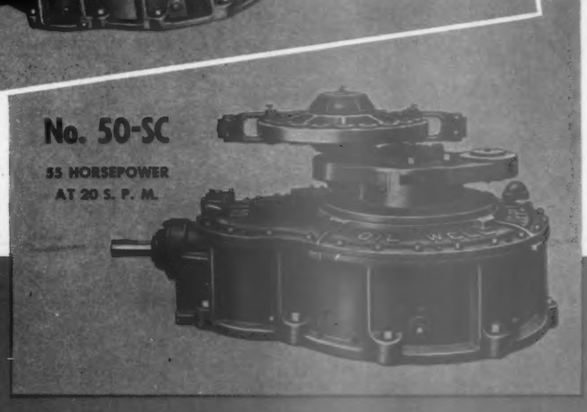

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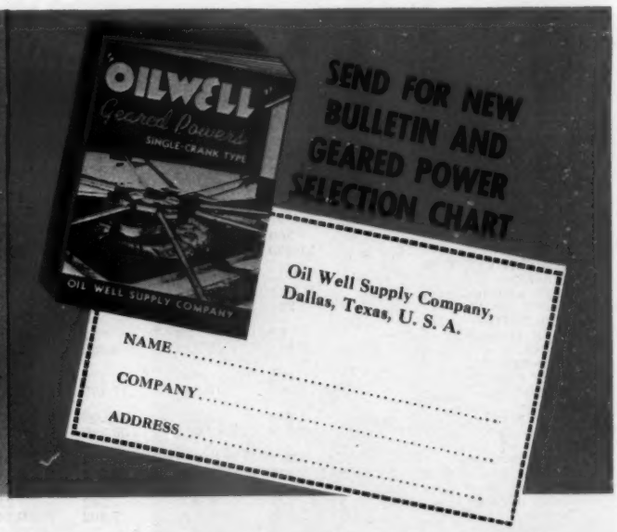

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KANSAS

Daily Average and Monthly Production in First Six Months of 1939

	January (bbl.)	February (bbl.)	March (bbl.)	April (bbl.)	May (bbl.)	June (bbl.)	Ttl. 6 mos. (bbl.)
BARTON COUNTY:							
Ainsworth district—							
Daily average	1,463	1,365	1,344	1,401	1,283	1,511	
Month	45,353	38,220	41,664	42,030	39,773	45,330	252,370
Albert—							
Daily average	564	442	545	575	629	721	
Month	17,484	12,376	16,895	17,250	19,499	21,630	105,134
Beaver and North Beaver—							
Daily average	994	818	951	903	877	794	
Month	30,814	22,904	29,481	27,090	27,187	23,820	161,296
Bloomer—							
Daily average	1,831	1,812	2,251	2,264	2,190	2,167	
Month	56,761	50,736	69,781	67,920	67,890	65,010	378,098
Ellinwood district—							
Daily average	449	575	391	486	529	497	
Month	13,919	16,100	12,121	14,580	16,399	14,910	88,029
South Silica—							
Daily average	1,821	1,828	2,034	2,324	2,101	1,841	
Month	56,451	51,184	63,054	69,720	65,131	55,230	360,770
Kraft—							
Daily average	623	602	727	611	583	586	
Month	19,313	16,856	22,537	18,330	18,073	17,580	112,689
Miscellaneous pools—							
Daily average	685	805	620	675	747	1,122	
Month	21,235	22,540	19,220	20,250	23,157	33,660	140,062
Clawson—							
Daily average	.....	.....	491	643	875	583	
Month	.....	.....	15,221	19,290	27,125	17,490	259,126
ELLIS COUNTY:							
Bemis and South Bemis—							
Daily average	4,702	4,603	5,881	6,712	6,472	6,443	
Month	145,762	128,884	182,311	201,360	200,632	193,290	1,052,239
Blue Hill—							
Daily average	387	138	27	35	99	71	
Month	11,997	3,864	837	1,050	3,069	2,130	22,947
Cress—							
Daily average	547	523	629	819	645	578	
Month	16,957	14,644	19,499	24,510	19,995	17,340	112,945
Marshall—							
Daily average	266	304	302	396	332	216	
Month	8,246	8,512	9,362	11,880	10,292	6,480	54,772
Richards—							
Daily average	306	247	165	146	129	128	
Month	9,486	6,916	5,115	4,380	3,999	3,840	33,736
Ruder—							
Daily average	207	239	278	233	294	216	
Month	6,417	6,692	8,618	6,990	9,114	6,480	44,311
Shutts—							
Daily average	471	450	497	615	499	544	
Month	14,601	12,600	15,407	18,450	15,469	16,320	92,847
Ubert—							
Daily average	376	226	178	153	135	111	
Month	11,656	6,328	5,518	4,590	4,185	3,330	35,607
Walters—							
Daily average	571	473	603	647	662	716	
Month	17,701	13,244	18,693	19,410	20,522	21,480	111,050
Miscellaneous pools—							
Daily average	405	278	470	467	235	474	
Month	12,555	7,784	14,570	14,010	7,285	14,220	70,424
Burnett and South Burnett—							
Daily average	.....	.....	.....	.....	242	364	
Month	.....	.....	.....	.....	7,502	10,920	18,422
ELLSWORTH COUNTY:							
Breford—							
Daily average	317	292	341	313	306	409	
Month	9,827	8,176	10,571	9,390	9,486	12,270	59,720
Lorraine—							
Daily average	1,514	1,827	1,872	1,814	1,541	1,568	
Month	46,934	51,156	58,032	54,420	47,771	47,040	305,353
Schroeder-Wilkins—							
Daily average	199	230	283	362	419	483	
Month	6,169	6,440	8,773	10,860	12,989	14,490	59,721
Stoltenberg—							
Daily average	345	324	337	366	339	379	
Month	10,695	9,072	10,447	10,980	10,509	11,370	63,073
Stratman—							
Daily average	213	211	225	225	249	247	
Month	6,603	5,908	6,975	6,750	7,719	7,410	41,365
Miscellaneous pools—							
Daily average	132	134	120	45	38	34	
Month	4,092	3,752	3,720	1,350	1,178	1,020	15,112
HARVEY COUNTY:							
Halistead—							
Daily average	458	477	431	509	423	416	
Month	14,198	13,356	13,361	15,270	13,113	12,480	81,778
Hollow-Nikkel—							
Daily average	2,747	2,474	2,532	2,395	2,105	2,569	
Month	85,157	69,272	78,492	71,850	65,255	77,070	447,096
Sperling—							
Daily average	369	266	178	179	173	112	
Month	11,439	7,448	5,518	5,370	5,363	3,360	38,498
McPHERSON COUNTY:							
Bernheidt—							
Daily average	31	15	40	29	29	147	
Month	961	420	1,340	870	899	4,410	8,800
Canton North—							
Daily average	93	79	72	69	59	157	
Month	2,883	2,212	2,232	2,070	1,829	4,710	15,936
Chindberg—							
Daily average	428	380	370	376	359	428	
Month	13,268	10,640	11,470	11,280	11,129	12,840	70,627
Graber—							
Daily average	2,938	3,109	3,008	3,001	2,492	2,426	
Month	91,078	87,052	93,248	90,030	77,252	72,780	511,440
Johnson—							
Daily average	317	301	292	277	263	320	
Month	9,827	8,428	9,052	8,310	8,153	9,600	53,370
McPherson—							
Daily average	229	250	242	218	208	210	
Month	7,099	7,000	7,502	6,540	6,448	6,300	40,889
Ritz-Canton—							
Daily average	5,549	5,073	5,894	5,279	5,234	5,574	
Month	172,019	142,044	182,714	158,370	162,254	167,220	984,621
Roxbury—							
Daily average	32	144	120	145	130	141	
Month	992	4,032	3,720	4,350	4,030	4,230	21,354
Voshell—							
Daily average	1,535	1,558	1,625	1,594	1,619	1,606	
Month	47,585	43,624	50,375	47,820	50,189	48,180	287,773
RENO COUNTY:							
Buhler—							
Daily average	179	232	427	726	938	1,028	
Month	5,549	6,496	13,237	21,780	29,078	30,840	106,980
Burrton-Haury—							
Daily average	8,388	8,052	8,978	9,018	8,887	9,987	
Month	260,028	225,456	278,318	270,540	275,497	299,610	1,609,449
Hilger—							
Daily average	627	611	696	906	788	627	
Month	19,437	17,108	21,576	27,180	24,428	18,810	128,539

(Continued on Next Page)

the farthest north oil has been found in Kansas, the discoveries opening the first pools in the two counties. The Norton and Phillips strikes, together with the 1938 discovery of the Morel pool in Graham County immediately south of them, will encourage further exploration along the Central Kansas uplift in the northwestern part of the state. Incidentally, one of the 1939 discoveries was a 1-mile extension of the Morel pool, where four wells with total potential of 6,931 bbl. had been completed by June 30.

Sherman County, in the far northwestern part of the state and adjoining the Colorado State line, was added to the productive areas with the completion of a small gas well in June. It was a comparatively shallow well drilled for gas, so no test of the oil possibilities of the area was made. Located many miles from any other Kansas oil or gas pool, the Sherman County strike gives further encouragement to additional exploration in the northwest.

While no discoveries have been recorded so far this year in other far western or southwestern counties, a second oil producer was completed in the Nunn pool, opened in Finney County in 1938.

Results of Wildcat Drilling

County—	Oil and gas wells	Dry holes	Average depth of dry holes
Barber	*1	1	4,850
Barton	†8	9	3,423
Butler	1	4	2,671
Chase	0	1	3,065
Cowley	0	10	3,012
Ellis	2	2	3,479
Ellsworth	1	0	0
Greenwood	0	2	1,713
Graham	1	0	0
Harvey	0	1	3,430
Johnson	2	1	712
Kingman	0	1	4,799
Marion	1	2	2,726
Meade	0	1	1,435
McPherson	1	2	3,961
Norton	1	0	0
Ottawa	0	1	4,135
Reno	0	1	4,000
Rice	6	6	3,505
Rooks	0	2	3,566
Russell	5	3	3,382
Salina	0	1	3,632
Sedgwick	1	2	2,239
Shawnee	0	1	2,689
Sherman	*1	0	0
Stafford	2	3	3,993
Sumner	0	1	3,960
Woodson	0	3	1,671
Total	34	61	

*Gas. †One gas.

Average depth of oil and gas wells, feet	3,118
Average depth of dry holes, feet	3,145
Percentage of oil wells	32.63
Percentage of gas wells	3.16
Percentage of dry holes	64.21

Misener Sand Development

An important development in recent weeks was the extension of the Misener sand oil area in the Medicine Lodge field, Barber County, about 12 miles north of the Oklahoma State line. It was the second Misener oil producer to be completed in the area, and encouraged the hope that here might be developed another Misener sand oil pool comparable to the rich Zenith pool in Stafford County. Zenith was intensively developed late in 1938 and early this year, with some work continuing there.

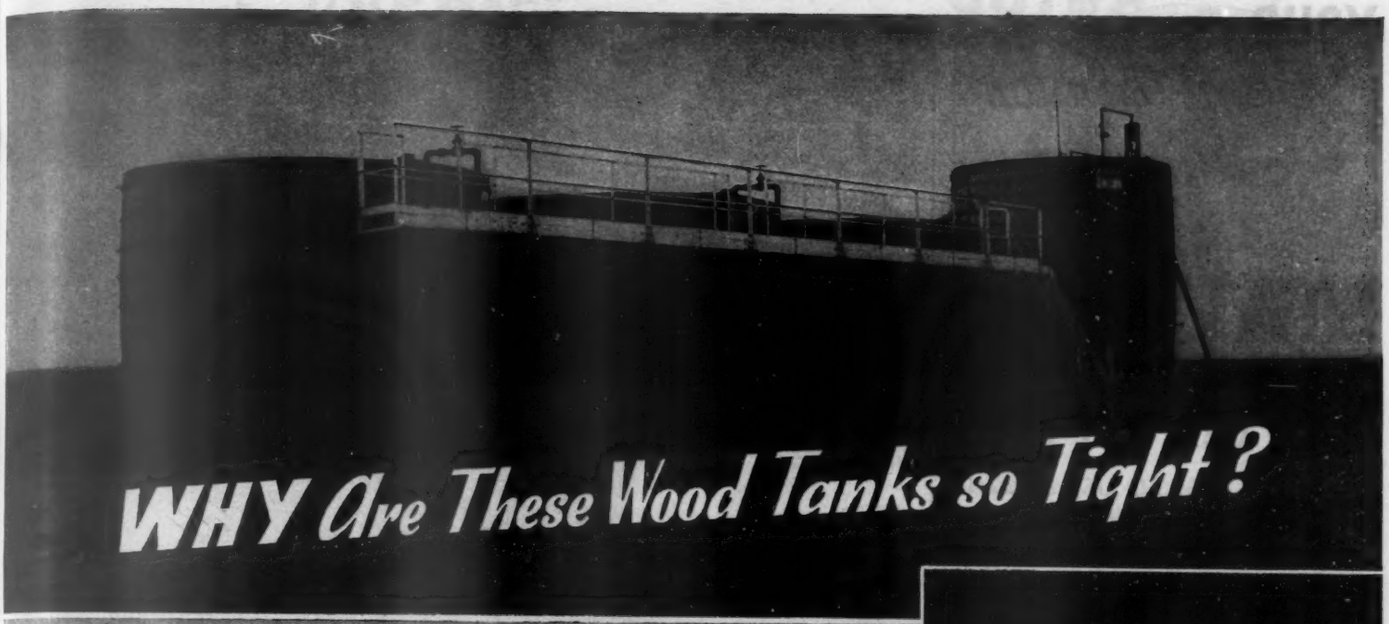
Operations in the proven Kansas fields declined sharply this year, due largely to the intensive development in Illinois and the resultant loss of market. Only 558 wells were completed in all fields in the first half year, compared with 858 completions in the first half of 1938.

Much of the drilling in proven areas this year has been confined to forced offsets or tests necessary to meet lease requirements, many operators being content to bide their time until that better day when Kansas producers get the slice of the market they insist they are entitled to. However, it has not been an entirely drab six months.

Big Wells at Hittle

The most spectacular development in Kansas this year has been in the Hittle pool, Cowley County. Hittle, long productive from shallow Pennsylvanian pay zones, was revived with the discovery of Arbuckle lime production in 1938 and it has been "going to town" this year. Several wells made potentials of 5,000 to 8,000 bbl., and then a well was completed for initial daily potential of 17,508 bbl. This was followed by another gusher for estimated initial potential of 22,000 to 25,000 bbl., rivaling the big wells of Eldorado boom days. The pool was extended several times and limits of the Arbuckle zone remain to be determined. As of June 30,

(Continued on Page 128)



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The advantages of this plant, pictured above, are presented in the four interior views (right) showing, top to bottom: **Spacious Shop** is equipped with modern machines pictured individually in three close-up views below. **Crozing Machine** cuts croze in both ends of stave in one operation, assuring perfect uniformity—**Staving Machine** cuts every stave with identical dimensions, joints both edges, and cuts water groove in a single operation—**De-Walt Radius Saw** cuts periphery of tank bottoms, eliminating old, inaccurate method of sawing each board separately.

Yes . . . Parkersburg wood tanks are accurately built. This, combined with their well known exclusive features, assures years of seepage-proof service in "sour crude" fields where corrosion takes its toll on steel tanks. Descriptive literature is yours upon request . . . or refer your 1939 Composite Catalog

THE PARKERSBURG RIG & REEL CO., PARKERSBURG, W. VA.

DALLAS - HOUSTON - TULSA - LOS ANGELES - NEW YORK

C-5-39

YOUR Semi-Annual OR Annual STATISTICS will show KEY GRAPHITE PASTE

COSTS LESS TO USE because IT GIVES GREATER COVERAGE

Key Graphite Paste is the most economical sealing compound to use on all lines carrying oil, gasoline, kerosene and hot or cold oily liquids because it gives you maximum coverage. Pound for pound, Key Graphite Paste will go several times as far as ordinary pipe dopes... and it requires only water for thinning.

ONLY KEY GRAPHITE PASTE GIVES YOU THESE OTHER PLUS FEATURES

CONVENIENT
It lubricates as it seals ... leaves joints easy to disconnect and clean.

SAFE
Key Graphite Paste is listed by the Underwriters' Laboratories for all oil line joints.

EFFICIENT
It stops leaks permanently...is not soluble in gasoline, hot or cold oily liquids ... expands under heat.

AVAILABLE
Key Graphite Paste is available at all good oil country supply stores. Get it there.

FREE SAMPLE A liberal free sample of Key Graphite Paste will be sent on request. Write today.

KEY COMPANY
2681 McCasland Ave., East St. Louis, Ill.

$60,000.00 WILL BUILD
MIDGET CRACKING PLANT
250 bbls. per day—70 octane gasoline

Larger capacities 500 & 750 bbls. per day Producing gasoline of 70-72 and 74-76 octane without addition of lead.

Complete Manufacturing and Construction Drawings along with Specifications and Bills of Materials.

Inquiries on other Refinery Processes, Engineering and Design invited.

STEPHEN SWARTZ
9023 S. LOOMIS ST. CHICAGO, ILL.

KANSAS (Continued)

	January (bbl.)	February (bbl.)	March (bbl.)	April (bbl.)	May (bbl.)	June (bbl.)	Ttl. 6 mos. (bbl.)
Lerado—							
Daily average	699	650	719	741	834	848	
Month	21,669	18,200	22,289	22,230	25,854	25,440	135,682
Miscellaneous—							
Daily average	97	100	120	106	95	120	
Month	3,007	2,800	3,720	3,180	2,945	3,600	19,252
RICE COUNTY:							
Campbell—							
Daily average	1,151	1,161	1,286	1,454	1,565	1,794	
Month	35,681	32,508	39,866	43,620	48,515	53,820	254,010
Chase—							
Daily average	4,026	4,144	4,386	4,347	4,309	4,371	
Month	124,806	116,032	135,966	130,410	133,579	131,130	771,923
Cram—							
Daily average	162	152	211	245	248	303	
Month	5,022	4,256	6,541	7,350	7,688	9,090	39,947
Edwards—							
Daily average	1,184	1,395	1,913	1,973	1,846	1,477	
Month	36,704	39,060	59,303	59,190	57,226	44,310	295,793
Geneseo—							
Daily average	3,662	3,553	3,329	3,439	3,185	3,131	
Month	113,522	99,484	103,199	103,170	98,735	93,930	612,040
Haferman—							
Daily average	125	122	138	129	145	176	
Month	3,875	3,416	4,278	3,870	4,495	5,280	25,214
Keesling—							
Daily average	711	774	851	742	724	826	
Month	22,041	21,672	26,381	22,260	22,444	24,780	139,578
Orth—							
Daily average	178	177	193	167	171	128	
Month	5,518	4,956	5,983	5,010	5,301	3,840	30,608
Ploog—							
Daily average	183	171	193	176	161	198	
Month	5,673	4,788	5,983	5,280	4,991	5,940	32,655
Raymond—							
Daily average	706	668	630	696	643	663	
Month	21,886	18,704	19,530	20,880	19,933	19,890	120,823
Silica—							
Daily average	9,173	8,979	10,477	10,209	10,347	10,580	
Month	284,363	251,412	324,787	306,270	320,757	317,400	1,804,989
Stumps—							
Daily average	2,065	2,140	2,451	2,676	2,193	1,748	
Month	64,015	59,920	75,981	80,280	67,983	52,440	400,619
Welch and North Welch—							
Daily average	361	375	499	368	398	340	
Month	11,191	10,500	15,469	11,040	12,338	10,200	70,738
Wenke and West Wenke—							
Daily average	164	190	172	201	169	201	
Month	5,084	5,320	5,332	6,030	5,239	6,030	33,035
Wherry and East Wherry—							
Daily average	3,060	3,117	3,725	3,937	3,696	3,289	
Month	94,860	87,276	115,475	118,110	114,576	98,670	628,967
Miscellaneous—							
Daily average	238	204	205	370	255	393	
Month	7,378	5,712	6,355	11,100	7,905	11,790	50,240
STAFFORD COUNTY:							
Drach—							
Daily average	215	175	238	221	226	273	
Month	6,665	4,900	7,378	6,630	7,006	8,190	40,769
Gates—							
Daily average	229	224	256	260	277	325	
Month	7,099	6,272	7,936	7,800	8,587	9,750	47,444
Richardson—							
Daily average	1,076	1,048	1,182	2,021	1,341	850	
Month	33,356	29,344	36,642	60,630	41,571	25,500	227,043
Sittner and South Sittner—							
Daily average	265	473	374	391	340	249	
Month	8,215	13,244	11,594	11,730	10,540	7,470	62,793
St. John—							
Daily average	357	347	405	404	421	431	
Month	11,067	9,716	12,555	12,120	13,051	12,930	71,439
Zenith—							
Daily average	2,404	2,474	3,295	4,587	3,508	3,443	
Month	74,524	69,272	102,145	137,610	108,748	103,290	595,589
Miscellaneous—							
Daily average	324	259	440	423	550	480	
Month	10,044	7,252	13,640	12,690	17,050	14,400	75,076
RUSSELL COUNTY:							
Allen—							
Daily average	123	131	164	189	191	255	
Month	3,813	3,668	5,084	5,670	5,921	7,650	31,806
Atherton —							
Daily average	365	326	399	414	408	448	
Month	11,315	9,128	12,369	12,420	12,648	13,440	71,320
Balta and North Balta—							
Daily average	153	99	112	121	133	119	
Month	4,743	2,772	3,472	3,630	4,123	3,570	22,310
Big Creek and East Big Creek—							
Daily average	659	633	867	710	674	744	
Month	20,429	17,724	26,877	21,300	20,894	22,320	129,544
Coralena—							
Daily average	707	637	735	677	670	616	
Month	21,917	17,826	22,785	20,310	20,770	18,480	122,098
Eichman—							
Daily average	136	107	111	103	108	128	
Month	4,216	2,996	3,441	3,090	3,348	3,840	20,931
Fairfield and North Fairfield—							
Daily average	12	117	153	125	160	149	
Month	372	3,276	4,743	3,750	4,960	4,470	21,571
Fairport—							
Daily average	1,861	1,734	1,841	1,751	1,869	1,682	
Month	57,691	48,552	57,071	52,530	57,939	50,460	324,243
Gorham—							
Daily average	4,864	5,049	5,784	5,821	5,736	5,973	
Month	150,784	141,372	179,304	174,630	177,816	179,190	1,003,096
Greenvale—							
Daily average	125	136	149	118	111	149	
Month	3,875	3,808	4,619	3,540	3,441	4,470	23,753
Gurney and South Gurney—							
Daily average	940	2,305	1,521	1,174	1,291	937	
Month	29,140	64,540	47,151	35,220	40,021	28,110	244,182
Hall—							
Daily average	888	795	887	891	939	918	
Month	27,528	22,260	27,497	26,730	29,109	27,540	160,664
Letsch and South Letsch—							
Daily average	932	997	1,084	1,038	1,169	1,384	
Month	28,892	27,916	33,604	31,140	36,239	41,520	199,311
Neidenthal—							
Daily average	226	205	220	197	198	209	
Month	7,006	5,740	6,820	5,910	6,138	6,270	37,884
Russell—							
Daily average	942	915	1,026	1,037	1,093	1,109	
Month	29,202	25,620	31,806	31,110	33,883	33,270	184,891
Schneider—							
Daily average	74	121	168	194	186	177	
Month	2,294	3,388	5,208	5,820	5,766	5,310	27,786
Sellens —							
Daily average	670	535	599	441	456	505	
Month	20,770	14,980	18,569	13,230	14,136	15,160	96,833

(Continued on Next Page)

IT'S AN "UPHILL BATTLE" GOING DOWN

CHAMPION ROTARY HOSE IS BUILT FOR THE FRAY

The increasing depths to which modern drilling operations are carried acclaim the ever-growing knowledge and skill of the men who perform these feats. As they push their efforts farther and farther, the tools with which they work must be developed correspondingly . . . to stand up under the increased strain and punishment of the work.

Especially is this true in the part Rotary Hose plays in deep well drilling—handling great surging pressures, abrasion, extreme shocks and crushing, while circulating mud to the bottom of the hole and bringing earth and rock back to the surface. And Champion Rotary Hose has consistently proved more than equal to the task—built with every structural element necessary for complete dependability in service. Its heavy tube is oil and abrasion-resisting; its wire reenforcements are designed to harness kinking, expansion and elongation forces; rubber compounds defy separation of component parts. Such effective features as these have gained appreciation among drillers for the name Champion.

Other grades of Republic Rotary Hose and Mechanical Rubber Products built particularly for industry of the Oil Country have made their own records of advanced service. Republic Rubber Division of Lee Rubber and Tire Corp., Youngstown, Ohio.

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HOSE
BELTING
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REPUBLIC RUBBER

A Pumping Unit with an Iron Constitution!

You've heard of men with iron constitutions. JENSEN Pumping Units are like that. Nothing ever seems to interfere with their smooth, steady performance.

We've spent 20 years learning how to build in that quality. We've learned how to balance a well to minimize strain and wear, not only on the JENSEN Unit itself, but on other equipment as well. A lease is a pleasure to operate when JENSEN Jacks lift the oil.

DON'T be satisfied with average performance. You may be a busy man, but you'll be well repaid if you'll wire, telephone or write us now, at Coffeyville.

JENSEN BROTHERS MANUFACTURING CO.

COFFEYVILLE, KANSAS, U. S. A.

Here's a PAL Who Will Never Let YOU Down

When you need a safe, bright light, depend on Ecolite Electric Lantern No. 44 U.S.V. It is a sturdy, faithful lantern that always works. There's nothing to get out of order. Approved by Underwriters' Laboratories, too.

Available at Supply Stores

ECONOMY ELECTRIC LANTERN CO.

3100 W. Cherry St. - Milwaukee, Wis.

KANSAS (Continued)

	January (bbl.)	February (bbl.)	March (bbl.)	April (bbl.)	May (bbl.)	June (bbl.)	Ttl. 6 mos. (bbl.)
Trapp and South Trapp—							
Daily average	8,406	8,205	9,493	8,692	9,020	10,034	
Month	260,586	229,740	294,283	260,760	279,620	301,020	1,626,009
Vaughn—							
Daily average	491	535	609	537	513	606	
Month	15,221	14,980	18,879	16,110	15,903	18,180	99,273
Miscellaneous—							
Daily average	511	525	572	286	281	363	
Month	15,841	14,700	17,732	8,580	8,711	10,890	76,454
SEDGWICK COUNTY:							
Eastborough and North Eastborough—							
Daily average	589	712	693	637	726	649	
Month	18,259	19,936	21,483	19,110	22,506	19,470	120,134
Goodrich—							
Daily average	841	934	825	858	766	862	
Month	26,071	26,152	25,575	25,740	23,746	25,860	153,774
Greenwich—							
Daily average	674	673	974	974	861	921	
Month	20,894	18,844	30,194	29,220	26,691	27,630	153,473
Robbins—							
Daily average	348	357	356	332	353	352	
Month	10,788	9,996	11,036	9,960	10,943	10,560	63,283
Valley Center—							
Daily average	914	899	930	863	936	891	
Month	28,334	25,172	28,830	25,890	29,016	26,730	163,972
Miscellaneous—							
Daily average	105	66	76	95	75	83	
Month	3,255	1,848	2,356	2,850	2,325	2,490	15,124
SUMNER COUNTY:							
Caldwell—							
Daily average	183	157	208	213	210	212	
Month	5,673	4,396	6,448	6,390	6,510	6,360	35,777
Churchill—							
Daily average	663	642	549	564	610	587	
Month	20,553	17,976	17,019	16,920	18,910	17,610	108,988
Oxford and West Oxford—							
Daily average	1,061	1,070	973	937	988	936	
Month	32,891	29,960	30,163	28,110	30,628	28,080	179,832
Padgett—							
Daily average	226	205	235	220	203	209	
Month	7,006	5,740	7,285	6,600	6,293	6,270	39,194
Wellington—							
Daily average	1,716	2,032	2,164	1,960	2,065	2,018	
Month	53,196	56,896	67,084	58,800	64,015	60,540	360,531
Latta—							
Daily average	.....	179	219	311	304	308	
Month	.....	5,012	6,789	9,330	9,424	9,240	39,795
Miscellaneous—							
Daily average	204	187	160	183	161	150	
Month	6,324	5,236	4,960	5,490	4,991	4,500	31,501
COWLEY COUNTY:							
Burden—							
Daily average	216	203	210	217	194	189	
Month	6,696	5,684	6,510	6,510	6,014	5,670	37,084
Frog Hollow—							
Daily average	452	602	637	745	516	525	
Month	14,012	16,856	19,747	22,350	15,996	15,750	104,711
Hittle—							
Daily average	904	1,347	1,761	2,320	1,848	2,094	
Month	28,024	37,716	54,591	69,600	57,288	62,820	310,039
Rainbow—							
Daily average	1,069	1,027	1,088	1,059	1,106	1,098	
Month	33,139	28,756	33,728	31,770	34,286	32,940	194,619
Rock and East and North Rock—							
Daily average	337	376	540	511	565	556	
Month	10,447	10,528	16,740	15,330	17,515	16,680	87,240
State—							
Daily average	251	230	199	243	223	227	
Month	7,781	6,440	6,169	7,290	6,913	6,810	41,403
Weathered—							
Daily average	1,969	1,846	1,795	1,794	1,734	1,759	
Month	61,659	51,688	55,645	53,820	53,754	52,770	329,336
Winfield—							
Daily average	338	292	349	341	338	336	
Month	10,478	8,176	10,819	10,230	10,478	10,080	60,261
Miscellaneous—							
Daily average	1,705	1,800	1,681	1,737	1,756	1,741	
Month	62,855	50,400	52,111	52,110	54,436	52,230	314,142
BUTLER COUNTY:							
Augusta—							
Daily average	1,348	1,231	1,307	1,243	1,362	1,309	
Month	41,788	34,468	40,517	37,290	42,222	39,270	235,555
Blankenship—							
Daily average	209	254	219	238	243	241	
Month	6,749	7,112	6,789	7,140	7,533	7,230	42,283
Brandt—							
Daily average	246	251	225	223	315	296	
Month	7,626	7,028	6,975	6,690	9,765	8,880	46,964
Elbing—							
Daily average	1,227	1,175	1,157	1,186	1,233	1,237	
Month	38,037	32,900	35,867	35,580	38,223	37,110	217,717
Eldorado—							
Daily average	7,632	7,577	7,393	7,615	7,914	7,890	
Month	236,592	212,156	229,183	228,450	245,334	236,700	1,388,415
Fox-Bush—							
Daily average	382	401	401	388	408	405	
Month	11,842	11,228	12,431	11,640	12,648	12,150	71,939
Garden—							
Daily average	196	227	231	208	217	211	
Month	6,076	6,356	7,161	6,240	6,727	6,330	38,890
Haverhill—							
Daily average	260	232	247	242	243	237	
Month	8,060	6,496	7,657	7,260	7,533	7,110	44,116
Keighley—							
Daily average	223	197	170	168	154	160	
Month	6,913	5,516	5,270	5,040	4,774	4,800	32,313
McCullogh—							
Daily average	261	179	274	215	151	192	
Month	8,091	5,012	8,494	6,450	4,681	5,760	38,488
Potwin—							
Daily average	803	730	778	773	807	803	
Month	24,893	20,440	24,118	23,190	25,017	24,090	141,748
Reynolds-Schaffer—							
Daily average	323	293	328	319	347	318	
Month	10,013	8,204	10,168	9,570	10,757	9,540	58,252
Smock-Sluss—							
Daily average	161	140	165	155	173	166	
Month	4,991	3,920	5,115	4,650	5,363	4,980	29,019
Stern—							
Daily average	184	210	234	223	275	264	
Month	5,704	5,880	7,254	6,690	8,525	7,920	41,973
Miscellaneous—							
Daily average	926	941	921	953	962	969	
Month	28,706	26,348	28,551	28,590	29,822	29,070	171,087
GREENWOOD COUNTY:							
Atyeo, Pixley, Browning, Teeter and Scott trend—							
Daily average	1,836	1,612	1,933	1,835	1,858	1,862	
Month	56,916	45,136	59,923	55,050	57,598	55,860	330,483
Burkett, Thrall, Polhamus, and Sallyards trend—							
Daily average	1,307	1,104	1,119	1,128	1,181	1,177	
Month	40,517	30,912	34,689	33,840	36,611	35,310	211,879

(Continued on Next Page)

TIMKEN

AT THE NEW YORK WORLD'S FAIR

This gigantic rolling model of a TIMKEN Tapered Roller Bearing is a center of attraction at the Timken Exhibit in the Metals Building at the New York World's Fair.

To be Timken Bearing Equipped is one of the strongest recommendations any product can have. That is the basic fact upon which the Timken Exhibit was created. Behind its splendor of color and light is a story of efficiency, endurance and economy that cannot fail to be of tremendous sales value to every manufacturer who uses TIMKEN Bearings in his product.

TIMKEN

TRADE-MARK REG. U. S. PAT. OFF.

Manufacturers of TIMKEN Tapered Roller Bearings for automobiles, motor trucks, railroad cars and locomotives and all kinds of industrial machinery; TIMKEN Alloy Steels and Carbon and Alloy Seamless Tubing; and TIMKEN Rock Bits.

THE TIMKEN ROLLER BEARING COMPANY, CANTON, OHIO

KANSAS (Continued)

	January (bbl.)	February (bbl.)	March (bbl.)	April (bbl.)	May (bbl.)	June (bbl.)	Ttl. 6 mos. (bbl.)
Demallorie-Sowder—							
Daily average	649	615	687	614	698	684	
Month	20,119	17,220	21,297	18,420	21,638	20,520	119,214
Dunaway—							
Daily average	213	222	227	218	230	231	
Month	6,603	6,216	7,037	6,540	7,130	6,930	40,456
Hamilton—							
Daily average	332	327	361	316	333	329	
Month	10,292	9,156	11,191	9,480	10,323	9,870	60,312
Lamont—							
Daily average	398	352	401	338	393	381	
Month	12,338	9,856	12,431	10,140	12,183	11,430	68,378
Madison—							
Daily average	579	573	609	605	549	562	
Month	17,949	16,044	18,879	18,150	17,019	16,860	104,901
Quincy—							
Daily average	881	943	1,004	798	830	818	
Month	27,311	26,404	31,124	23,940	25,730	24,540	159,049
Reese—							
Daily average	.....	168	175	159	159	162	
Month	.....	4,704	5,425	4,770	4,929	4,860	24,688
Seeley-Wick—							
Daily average	917	908	934	860	916	911	
Month	28,427	25,424	28,954	25,800	28,396	27,330	164,331
Virgil and North Virgil—							
Daily average	1,168	1,599	1,771	1,637	1,699	1,684	
Month	51,708	44,772	54,901	49,110	52,699	50,520	303,710
Wiggins—							
Daily average	.....	143	148	146	126	131	
Month	.....	4,004	4,588	4,380	3,906	3,930	20,808
Winterscheid—							
Daily average	688	701	681	674	709	707	
Month	21,328	19,628	21,111	20,220	21,979	21,210	125,476
Miscellaneous—							
Daily average	934	911	894	914	948	939	
Month	28,954	25,508	27,714	27,420	29,388	28,170	167,154
BARBER COUNTY:							
Daily average	201	193	210	251	225	316	
Month	6,231	5,404	6,510	7,530	6,975	9,480	42,130
CLARK COUNTY:							
Daily average	92	102	92	95	92	142	
Month	2,852	2,856	2,852	2,850	2,852	4,260	18,522
FINNEY COUNTY:							
Daily average	72	120	88	71	73	105	
Month	2,232	3,360	2,728	2,130	2,263	3,150	15,863
GRAHAM COUNTY:							
Daily average	.....	.....	26	43	58	72	
Month	.....	.....	806	1,290	1,798	2,160	6,054
KINGMAN COUNTY:							
Daily average	620	594	727	893	725	632	
Month	19,220	16,632	22,537	26,790	22,475	18,960	126,614
NESS COUNTY:							
Daily average	160	129	68	122	107	115	
Month	4,960	3,612	2,108	3,660	3,317	3,450	21,107
PAWNEE COUNTY:							
Daily average	95	152	167	160	181	116	
Month	2,945	4,256	5,177	4,800	5,611	3,480	26,269
PRATT COUNTY:							
Daily average	53	71	57	55	75	121	
Month	1,643	1,988	1,767	1,650	2,325	3,630	13,003
COFFEY COUNTY:							
Daily average	57	86	78	63	69	67	
Month	1,767	2,408	2,418	1,890	2,139	2,010	12,632
WESTERN ELK COUNTY:							
Daily average	540	697	886	780	772	793	
Month	16,740	19,516	27,466	23,400	23,932	23,790	134,844
ROOKS COUNTY:							
Daily average	661	587	600	726	853	774	
Month	20,491	16,436	18,600	21,780	26,443	23,220	126,970
SCOTT COUNTY:							
Daily average	957	842	708	851	906	822	
Month	29,667	23,576	21,948	25,530	28,086	24,660	153,467
RUSH COUNTY:							
Daily average	1,640	1,490	2,025	1,685	1,374	1,273	
Month	50,840	41,720	62,775	50,550	42,594	38,190	286,669
TREGO COUNTY:							
Daily average	188	181	171	160	169	144	
Month	5,828	5,068	5,301	4,800	5,239	4,320	30,556
MARION COUNTY:							
Daily average	907	901	854	994	989	962	
Month	28,117	25,228	26,474	29,820	30,659	28,860	169,158
EASTERN COUNTIES:*							
Daily average	5,884	7,091	7,976	7,625	7,922	8,003	
Month	182,404	198,548	247,256	228,750	245,582	240,090	1,342,630
Daily average	150,903	152,234	167,004	168,827	165,571	168,129	162,205
First 6 months 1939	4,677,993	4,262,552	5,177,124	5,064,810	5,132,731	5,043,870	29,359,080
First 6 months 1938	5,468,555	4,658,813	5,172,784	4,968,360	4,614,784	4,515,450	29,398,746
First 6 months 1937	5,244,673	5,236,644	5,866,936	5,827,230	6,241,881	5,908,470	34,325,835
First 6 months 1936	4,343,751	4,002,348	4,675,296	4,835,370	4,754,687	4,442,040	27,053,492
First 6 months 1935	4,190,673	4,107,292	4,630,098	4,378,950	4,605,236	4,427,670	26,339,919

*Chautauqua, eastern Elk, Montgomery, Wilson, eastern Woodson, Franklin, Miami, Anderson, Linn, Allen, Neosho, and Labette.

SOUTHWEST TEXAS—(San Antonio District, Continued)

(Continued from Page 116)

PEARSALL:							
Daily average	503	510	518	577	541	492	
Month	15,593	14,280	16,058	17,310	16,771	14,760	94,772
RIDDLE:							
Daily average	131	137	148	103	95	72	
Month	4,061	3,836	4,588	3,090	2,945	2,160	20,680
SALT FLAT:							
Daily average	4,095	4,113	4,618	4,910	4,974	4,439	
Month	126,945	115,164	143,158	147,300	154,194	133,170	819,931
SOMERSET:							
Daily average	545	582	556	580	634	649	
Month	16,895	16,296	17,236	17,400	19,654	19,470	106,951
VON ORMY:							
Daily average	113	127	137	126	156	136	
Month	3,503	3,556	4,247	3,780	4,836	4,080	24,002
DOBROWOSKI:							
Daily average	111	116	113	111	115	114	
Month	3,441	3,248	3,503	3,330	3,565	3,420	20,507
MISCELLANEOUS:							
Daily average	838	792	805	806	878	790	
Month	25,978	22,176	24,955	24,180	27,218	23,700	148,207
Daily average	23,886	23,447	24,496	25,942	26,204	23,747	24,637
First 6 months 1939	740,466	656,516	759,376	778,260	812,324	712,410	4,459,352
First 6 months 1938	767,777	657,664	764,770	751,650	732,964	663,840	4,338,665
First 6 months 1937	711,946	634,900	714,395	695,940	846,300	786,170	4,399,651

Miscellaneous fields and their production for the 6 months' period include Alta Vista, 2,501 bbl.; Bateman, 18,841 bbl.; Beyersville, 15,903 bbl.; Budette Wells, 6,999 bbl.; Carroll, 6,681 bbl.; Cedar Creek, 10,952 bbl.; Chacon Lake, 4,291 bbl.; Dunlap, 11,549 bbl.; Dunlay, 309 bbl.; Gas Ridge, 1,206 bbl.; Ina, 845 bbl.; Kimbro, 934 bbl.; La-Coste, 572 bbl.; Larremore, 7,586 bbl.; Lone Oak, 423 bbl.; Manda, 814 bbl.; Manford, 4,188 bbl.; Medina, 1,647 bbl.; Nash Creek, 3,732 bbl.; Staples, 61 bbl.; Tanglewood, 4,568 bbl.; Thrall, 6,023 bbl.; Walnut Creek, 4,915 bbl.; Yost, 7,943 bbl.; Zoboroski, 15,097 bbl.; Yturri, 9,627 bbl.; Total, 148,207 bbl.

a total of 30 Arbuckle lime producers had been completed in the pool for total potential of 112,803 bbl.

Development of the Campbell pool in Rice County was another feature of the first half of 1939. Also opened in 1938, it has been extended several times this year and shortly after midyear was connected with the Midway pool to the south, proving a long productive area just east of and parallel to the Chase field. The wells generally have not been big producers, ranging from 50 to 1,200 bbl. daily.

Numerous Extensions

The big Silica field was given several extensions, in both its Barton and Rice county sectors. Its productive limits gradually were being pushed eastward, and as the Chase field was given some westward extensions it appeared evident that a large district between the two would be productive.

The Bloomer field, which previously had been extended from Barton into Ellsworth County, was extended southwestward into Rice County and, early in June, the Nomenclature Committee decreed that the Bloomer and Habiger pools were joined under the name of the former.

The Trapp district in Russell and Barton counties was extended several times, and numerous extensions to other pools in those counties were completed. Practically every time a well was completed in the Bemis field, Ellis County, it was extended; and extensions in the Burnett, South Burnett and Peavey pools of that county brought about the recent joining of the three under the name of Burnett.

Total Kansas potential production reached an all-time high during the half-year, being placed at 4,165,475 bbl. as of July 1.

Southwest Texas Fields

(Continued from Page 116)

its discovery well, No. 1 La Prelle, completed in sand at 4,347-54 ft.

Other interesting developments in Nueces County included the opening of prolific production from a erals Corp. No. 1-A King.

The Riverside gas field received its first oil production with the completion of Seaboard Oil Co. No. 2 Wilson, 2,000 ft. west of the discovery.

The Bird Island field, offshore from Kleberg County in Laguna Madre Bay, received its first oil production when Pure Oil Co. completed No. 1 State for an initial production of 68 bbl. of 44.8-gravity oil, flowing through a 1/4-in. choke.

Pettus Trend Successes

Wildcatting along the Pettus trend through the eastern half of Duval County remained active, resulting in the discovery of three pools, two of which produced oil, the third being a gas field. West of San Diego, J. B. Blanchard and others opened the Muralla field with No. 1 Parr. One and a half mile southwest of the Benavides field, Henderson Coquat opened the Southland field with No. 1 Southland Life Insurance Co. making 145 bbl. William Nichols opened the Chilpin Creek gas field when No. 1 John Graham, Survey 572, flowed dry gas with a showing of distillate from perforated casing at 4,784-90 ft.

The Rincon field, on the south end of the Frio-Vicksburg trend in Starr County, originally a distillate field, was converted into an oil field with the completion of Transwestern Oil Co. and Rowan & Hope No. 1 W. I. Cameron. The well is located approximately 2 miles north of the discovery well.

Laredo Discoveries

The Volpe field was opened by Magnolia Petroleum Co. No. 1 Volpe-Benavides, which was completed on the pump for an initial production of 50 bbls. in 12 hours.

Another shallow discovery in Webb County, which recently received its second operation, is the Adami field in the A.B.&M. Survey, opened by Johnson & Robinson No. 1 Mabel Adami.

Production from the Government Wells sand was opened in Live Oak County with the discovery of the White Creek field by Holland and others No. 1 Gayle, B.S.&F. Survey, Section 59.

Production from a new sand was opened in the north extension of the Samfordyce field, Hidalgo County, by Fohs Oil Co. No. 1 Sullivan.

Other fields in the district enlarged by new sand discoveries or important extensions include Mellon Creek and Tomoconnor in Refugio County, South Clara Driscoll, Nueces County, and Kelsey in Jim Hogg and Brooks counties.

Semi-Annual Review

OKLAHOMA FIELD ACTIVITY INCREASES, REVIVAL IN OLD OIL AREAS

By DAL DALRYMPLE

The pendulum of field activity in Oklahoma, which started on the downward swing in 1938, reached its nadir last January and then began the upward surge that was reflected at midyear in an increasing number of operations and completions.

Nine hundred wells were completed in Oklahoma in the first 6 months of 1939. If that number merely is equaled in the last half of the year the total on December 31 will exceed the total for 1938 by 146.

Operations fell off sharply in 1938, when only 1,654 wells were completed as compared with 2,672 in 1937, which was the greatest number to be completed in the state since 1930. The Illinois boom, which attracted many Oklahoma operators and had an adverse effect on the Oklahoma market, was largely responsible for the decline.

This continued until January, 1939, when the number of monthly completions sunk to 106. That was the low for the current recession. Operations began to increase in February, continuing through June, when 205 wells were completed. The June total was the highest number of monthly completions since December, 1937, when 219 wells were finaled.

The 1939 increase in operations over last year is reflected in the following figures:

Completions first half of 1938	871
Completions last half of 1938	783
Completions first half of 1939	900

The bulk of the increase was in five counties: Creek, Jackson, Lincoln, Payne and Pottawatomie.

Creek County Shows Gain

There were 112 completions in Creek County in the first half of this year, compared with 70 in the first 6 months of 1938 and 56 in the last half of that year. If Creek County holds its own in the last part of this year, the total for 1939 will be at least 224 compared with 135 in 1938. At midyear, indications were that Creek County not only would hold its own but would show an increase in activity. Operators have been busy for several months working over old areas in that pioneer Oklahoma oil county, have opened up several new productive spots and found new pay horizons in old areas, encouraging further development.

Jackson County, in the southwestern part of the state, has enjoyed a revival of activity this year, with several wells being drilled in the Tipton and Altus pools. Twenty-one wells, all oil producers except one dry hole, were completed in the county the first half of the year, as against no completions in the corresponding period last year. Only five wells were completed in the county throughout 1938, all in the last 6 months.

Development of the Sac and Fox pool accounted for the increase in Lincoln County this year, although there has been a gain in wildcat operations and several of the older pools have shown signs of reviving. A total of 58 completions was recorded the first half of this year, against 42 from January to June, inclusive, last year, and the same number in the last 6 months of 1938.

Ramsey-Coyle Areas

Payne County accounted for 31 of the 1939 completions, largely in the Ramsey and Coyle pools. Only 30 wells were completed in Payne County in the entire 12 months of 1938, with 18 of them in the first half of the year. Completion of big producers in the Ramsey pool, which has been extended on two sides beyond the original community block, frequently featured Oklahoma field reports. Several locations remain to be drilled on the community block, and it is believed several more producers will be drilled on locations offsetting the block before the pool is definitely delimited. Operations in the Coyle pool, a 1938 discovery, were slow in getting under way but several wells were being drilled to Wilcox sand at midyear and discovery of production in Hunton lime assured additional activity after the Wilcox zone is fully explored. The pool had been defined only on the north end, and operations were following a trend to the south and east.

Pottawatomie County has paced Oklahoma in activity for the past year, this being largely due to a reworking program in the St. Louis field. A total of 144 wells were completed in the county in the first 6 months of 1939, compared with 62 in the corresponding period of the preceding year and 112 in the last half of 1938.

Between 30 and 40 rigs have been going constantly in the St. Louis district for more than a year. Some of these have been reworking old wells drilled during the heydey of the greater Seminole boom of several years ago, deepening them or plugging back to upper productive zones that were neglected in the early activity. The St. Louis revival has not been confined to old wells, however, many new wells being drilled to Viola, Hunton, dolomite, Wilcox and other producing horizons.

Extensions at St. Louis

Many of these were on inside locations, some being twin or triplet wells. Others were on outer edges of the St. Louis district, which has been extended several times in recent months.

The latest and one of the more important St. Louis extensions of this year was the T. E. Iglehart and others No. 1 Keener, NE NE SE Section 4-6-5, ¾ mile southeast of nearest production. It was acidized and flowed 1,650 bbl. of oil in 24 hours from dolomite at 4,044-71 ft. It extends the St. Louis field to within one location of the Seminole County line and opens a considerable area to development. This and other extensions assures a continuation of the activity at St. Louis for the remainder of the year.

The Shawnee pool also has contributed to the upswing in Oklahoma activity and helped maintain Pottawatomie as the most active county in the state. Dormant for many months, the Shawnee area was revived in May with the completion of a 300-bbl. well

OKLAHOMA

Daily Average and Monthly Production in First Six Months of 1939

	January (bbl.)	February (bbl.)	March (bbl.)	April (bbl.)	May (bbl.)	June (bbl.)	Ttl. 6 mos. (bbl.)
WASHINGTON COUNTY:							
Daily average	2,945	3,599	3,867	3,527	3,643	3,712	
Month	91,295	100,772	119,877	105,810	112,933	111,360	642,047
NOWATA COUNTY:							
Daily average	12,351	12,318	12,679	12,644	12,786	12,683	
Month	382,881	344,904	393,049	379,320	396,366	380,490	2,277,010
ROGERS COUNTY:							
Daily average	1,953	1,838	2,098	2,096	2,254	2,093	
Month	60,543	51,464	65,038	62,880	69,874	62,790	372,589
OSAGE AND EASTERN KAY COUNTIES:							
Burbank—							
Daily average	7,803	7,593	7,945	7,775	8,240	6,817	
Month	241,893	212,604	246,295	233,250	255,440	204,510	1,393,992
South Burbank—							
Daily average	9,355	9,305	9,332	9,291	9,332	9,346	
Month	290,005	260,540	289,292	278,730	289,292	280,380	1,688,239
Naval Reserve—							
Daily average	4,411	4,235	4,204	4,109	4,345	4,310	
Month	136,741	118,580	130,324	123,270	134,695	129,300	772,910
Other Osage pools—							
Daily average	12,067	13,817	12,666	12,788	13,618	13,592	
Month	374,077	386,876	392,646	383,640	422,158	407,760	2,367,157
TULSA COUNTY (Miscellaneous):							
Daily average	3,065	3,094	3,253	3,071	3,133	3,117	
Month	95,015	86,632	100,843	92,130	97,123	93,510	565,253
WAGONER COUNTY:							
Daily average	742	767	740	667	738	722	
Month	23,002	21,476	22,940	20,010	22,878	21,660	131,966
OKMULGEE COUNTY:							
Daily average	4,528	4,366	4,523	4,108	4,702	4,126	
Month	140,368	122,248	140,213	123,240	145,762	123,780	795,611

(Continued on Next Page)

OKLAHOMA DISCOVERIES FIRST HALF OF 1939

Field, county—	Location	Operator—	Comp. week end	No. wells	Producing formation	Total depth, ft.	Initial production
Spring extension, Jefferson	29-6s-5w	Bridwell Oil Co.	Feb. 9	272	Sand	1,519	15
East Searight, Seminole	34-10-6	H. S. Moss	Mar. 30	3	Cromwell	4,630	1,000
St. Louis extension, Pottawatomie	28-7-4e	Wood Oil Co.	Mar. 16	10	Misener-Hunton	4,560	70
Georgia gas, Payne	35-18-4e	Starr Oil & Gas Co.	Mar. 9	1	Prue-Skinner	4,123, P. B. 3,494	1,880,000 cu. ft.
Konawa extension, Seminole	17-6-6	Atlantic Refining Co.	April 6	98	Dolomite	4,024, P. B. 3,819	17
East Tuskegee-Dutcher, Creek	34-14-10	Dunn and others	April 27	19	Dutcher	2,666	110
Vanderslice gas, Creek	30-14-7	Burke-Greis Oil Co.	May 4	1	Prue	2,884	4,000,000 cu. ft.
West Little River, Seminole	21-7-6	Atlantic Ref. Co. et al	May 4	9	Wilcox	4,417	516
Brown-Second Wilcox, Garfield	10-20-4w	Hughes Drilling Co.	May 11	3	Second Wilcox	5,925	105
Chickasha gas-New Zone, Grady	26-5-8w	Carter Oil Co. et al	May 18	1	Sand	6,613, Pay 5,330	13,180,000 cu. ft.
Micawber, Okfuskee	6-13-8	Carter & Hight	May 25	1	Wheeler	2,850. P. B. 2,598	6
West Doyle, Stephens	4-1n-5w	Phillips Pet. Co.	May 25	1	Sand	5,620	1,071
Butterly, Garvin	22-1n-1e	Kerlyn Oil Co.	June 1	1	Sand	5,005, Pay 2,730	2,600,000 cu. ft.
East Bruce, Creek	20-17-9	Marshall Strozier	June 1	1	Bartlesville	2,543	100
Newalla, Oklahoma	24-26-4	R. Olsen Oil Co.	June 1	1	Hunton	6,636, P. B. 6,095	231
Johnson, Pottawatomie	19-6-5	Alma Oil Co.	June 8	1	Earlsboro	4,062, P. B. 3,019	120
Pierce, Osage	10-28-11	Charles Pet. Co.	June 29	1	Prue	992	175
Hobart, Kiowa	20-7-17w	Gled Oil Co. and Russell Tarr	June 1	1	Viola	1,055	Est. 2,000

OKLAHOMA (Continued)

	January (bbl.)	February (bbl.)	March (bbl.)	April (bbl.)	May (bbl.)	June (bbl.)	Ttl. 6 mos (bbl.)
MUSKOGEE AND McINTOSH COUNTIES:							
Daily average	850	839	923	762	730	743	
Month	26,350	23,492	28,613	22,860	22,630	22,290	146,235
OKFUSKEE COUNTY (Miscellaneous):							
Daily average	2,216	2,130	2,085	1,991	2,253	2,193	
Month	68,696	59,640	64,635	59,730	69,843	65,790	388,334
SEMINOLE, HUGHES, POTTAWATOMIE AND PONTOTOC COUNTIES:							
Seminole City—							
Daily average	7,602	7,722	8,136	8,149	8,363	8,310	
Month	235,662	216,216	252,216	244,470	259,253	249,300	1,457,117
East Seminole—							
Daily average	1,455	1,470	1,422	1,338	1,370	1,372	
Month	45,105	41,160	44,082	40,140	42,470	41,160	254,117
West Seminole—							
Daily average	1,612	1,628	1,543	1,623	1,590	1,604	
Month	49,972	45,584	47,833	48,690	49,290	48,120	289,489
Earlsboro district—							
Daily average	10,152	9,947	10,552	11,401	11,562	11,540	
Month	314,712	278,516	327,112	342,030	358,422	346,200	1,966,992
Little River, East Little River, West Little River—							
Daily average	8,517	8,660	8,720	8,077	9,783	8,840	
Month	264,027	242,480	270,320	242,310	303,273	265,200	1,587,610
Searight and East and North Searight—							
Daily average	2,305	2,415	2,635	3,218	3,057	2,615	
Month	71,455	67,620	81,685	96,540	94,767	78,450	490,517
Mission—							
Daily average	1,400	1,534	1,623	1,574	1,601	1,572	
Month	43,400	42,952	50,313	47,220	49,631	47,160	280,676
Carr City—							
Daily average	3,035	3,030	2,997	2,938	2,968	2,969	
Month	94,085	84,840	92,907	88,140	92,008	89,070	541,050
Maud—							
Daily average	1,079	1,117	1,116	853	753	813	
Month	33,449	31,276	34,596	25,590	23,343	24,390	172,644
Bowlegs—							
Daily average	7,945	8,269	8,665	8,483	8,593	8,419	
Month	246,295	231,532	268,615	254,490	266,383	252,570	1,519,885
Dora—							
Daily average	4,453	4,326	3,928	3,710	3,613	3,591	
Month	138,043	121,128	121,768	111,300	112,003	107,730	711,972
Total Seminole field—							
Daily average	49,555	50,118	51,337	51,364	53,253	51,645	
Month	1,536,205	1,403,304	1,591,447	1,540,920	1,650,843	1,549,350	9,272,069
Asher and West Asher—							
Daily average	376	370	399	402	388	392	
Month	11,656	10,360	12,369	12,060	12,028	11,760	70,233
Allen district—							
Daily average	5,627	6,202	6,309	6,742	6,686	6,814	
Month	174,437	173,656	195,579	202,260	207,266	204,420	1,157,618
Beebe and East Beebe—							
Daily average	2,767	2,857	2,861	2,778	2,899	2,813	
Month	85,777	79,996	88,691	83,340	89,869	84,390	512,063
Bethel and North Bethel—							
Daily average	2,316	2,275	2,326	2,256	2,233	2,229	
Month	71,796	63,700	72,106	67,680	69,223	66,870	411,375
Conservation—							
Daily average	101	91	81	90	91	90	
Month	3,131	2,548	2,511	2,700	2,821	2,700	16,411
Cromwell, North and South Cromwell—							
Daily average	3,529	3,089	3,487	3,475	3,619	3,571	
Month	109,399	86,492	108,097	104,250	112,189	107,130	627,557
Dill—							
Daily average	916	902	984	1,026	1,356	1,319	
Month	28,396	25,256	30,504	30,780	42,036	39,570	196,542
Fish—							
Daily average	2,571	3,415	3,676	4,535	5,001	5,084	
Month	79,701	95,620	113,956	136,050	155,031	152,520	732,878
Fitts—							
Daily average	33,161	31,522	29,661	28,569	27,026	25,944	
Month	1,027,991	882,616	919,491	857,070	837,806	778,320	5,303,294
Gray—							
Daily average	762	889	863	866	892	882	
Month	23,622	24,892	26,753	25,980	27,652	26,460	155,359
Grisso—							
Daily average	148	183	168	109	182	169	
Month	4,588	5,124	5,208	3,270	5,642	5,070	28,902
Holdenville—							
Daily average	802	804	850	865	783	791	
Month	24,862	22,512	26,350	25,950	24,273	23,730	147,677
Jesse—							
Daily average	2,485	2,394	2,438	2,448	2,531	2,494	
Month	77,035	67,032	75,578	73,440	78,461	74,820	446,366
Keokuk—							
Daily average	3,755	3,693	3,653	3,598	3,636	3,643	
Month	116,405	103,404	113,243	107,940	112,716	109,290	662,998
Sasakwa Townsite—							
Daily average	341	381	404	391	534	516	
Month	10,571	10,668	12,524	11,730	16,554	15,480	77,527
Konawa, East and West Konawa—							
Daily average	2,759	1,710	1,795	1,903	2,120	2,072	
Month	85,529	47,880	55,645	57,090	65,720	62,160	374,024
Olympic—							
Daily average	3,520	3,449	3,354	3,047	3,111	3,019	
Month	109,120	96,572	103,974	91,410	96,441	90,570	588,087
Shawnee—							
Daily average	966	967	901	859	1,039	1,012	
Month	29,946	27,076	27,931	25,770	32,209	30,360	173,292
St. Louis-Pearson—							
Daily average	28,566	29,469	33,960	35,221	36,477	36,919	
Month	885,546	825,132	1,052,760	1,056,630	1,130,787	1,107,570	6,058,425
Sasakwa—							
Daily average	1,313	1,342	1,392	1,365	1,370	1,362	
Month	40,703	37,576	43,152	40,950	42,470	40,860	245,711
Papoose—							
Daily average	696	683	737	706	662	671	
Month	21,576	19,124	22,847	21,180	20,522	20,130	125,379
Wofford—							
Daily average	289	223	327	245	300	211	
Month	8,959	6,244	10,137	7,350	6,200	6,330	45,220
Wetley—							
Daily average	152	127	125	136	139	133	
Month	4,712	3,556	3,875	4,080	4,309	3,990	24,522
Wewoka district—							
Daily average	2,012	2,680	2,434	2,090	2,111	2,093	
Month	62,372	75,040	75,454	62,700	65,441	62,790	403,797
Grayson—							
Daily average	692	932	1,267	1,512	1,470	1,472	
Month	21,452	26,096	39,277	45,360	45,570	44,160	221,915
Traugh—							
Daily average	1,485	1,406	1,369	1,314	1,156	1,184	
Month	46,035	39,368	42,439	39,420	35,836	35,520	238,618
Adams—							
Daily average	785	775	949	943	939	936	
Month	24,335	21,700	29,419	28,290	29,109	28,080	160,933
Hazel—							
Daily average	504	573	644	547	547	551	
Month	15,624	16,044	19,964	16,410	16,957	16,530	101,529
Avoca—							
Daily average	291	337	366	389	715	702	
Month	9,021	9,436	11,346	11,670	22,165	21,060	84,698

(Continued on Next Page)

at Yorkan Production Co. No. 1 Williams, SE NE NE Section 6-10-4, which extended the pool nearly ½ mile southwestward and almost to the Shawnee city limits. Several other tests were started as a result of that strike, and by the end of June additional producers had been completed and others were nearing pay sands. More recent developments indicate the area is being defined to the southwest, but even if that is true a considerable area has been proven for production and several additional wells will be drilled. Complete definition of the pool remains for future developments. Production is from Earlsboro sand.

The Cement field in Caddo County was one of the busier Oklahoma areas in 1938 and continued as such this year, being second only to St. Louis in number of operations in individual pools. Twenty-one wells had been completed at Cement by the end of June, being two more than were finaled in the first half of 1938. A total of 43 wells were completed in Caddo County in 1938, all but one or two wildcats being in the Cement field.

Cement Limits Enlarged

There is no indication of a let-up at Cement. Indeed, it may show an increase in the remainder of the year, due to extensions and development of new horizons. Several extensions have been recorded on the west side of the field, most recent being a ¼-mile southwestward extension at B. E. Johnson and others No. 1 Plummer, NE NE SW Section 34-6-10w, not a completion at time of writing, but estimated good for 200 bbl. or better from sand at 3,345-67 ft. So far there has been no indication of a limit to the Cement area on the west side, and it is certain many tests will be drilled before the extent of the area is known

Seminole County continues one of the busier sectors of Oklahoma, although operations to date this year have been running somewhat behind 1938. However, some new productive areas have been opened and extension wells completed, and at the end of June there appeared to be a slight increase in Seminole activity. The Seminole discoveries included opening of the East Searight pool in Section 34-10-6, where H. S. Moss and others found production in Cromwell sand, and an extension of West Little River pool.

The old Brown pool in Garfield County became active again in May when Hughes Drilling Co. No. 1 Misener, C NE NW Section 10-20-4w, found oil in the second Wilcox sand to give the area a new producing horizon. The deep sand was topped at 5,915 ft., total depth 5,925 ft., and the well was completed for daily average flow of 105 bbl. of oil.

The Hillsdale pool, a promising Garfield County discovery of 1938, proved disappointing when efforts to extend production over a considerable area early this year were unsuccessful. The pool was opened at Champlin Refining Co. No. 1 Boehm, SW SW NE Section 4-24-8w, a 219-bbl. producer from Wilcox sand.

Fewer Wildcats Drilled

Wildcat exploration has been carried on at a more leisurely pace to date this year than in 1938, but with a slightly better percentage of success. Wildcat completions of the first 6 months included 14 oil wells, 4 gas wells and 55 dry holes. In the corresponding period of 1938, 14 oil wells, 6 gas wells and 73 dry holes were included in wildcat completions. Thus the percentage of wildcats completed as oil wells this year was 19.2, while the percentage of wildcat oil well completions in the first half of 1938 was 13.9. Completions of oil discovery wells in the latter months of 1938 increased the percentage for the entire year to 18.4, still under the 1939 figure.

The most interesting strike of the first half of the year was made in Kiowa County late in May at Gled Oil Co. and Russell S. Tarr No. 1 Watkins, SW SW NW Section 20-7-17w, northeast of Hobart. Started as a Wilcox sand test, it topped Viola lime at 1,049 ft. and after drilling 1 ft. into the lime, the well started flowing at the rate of 80 to 100 bbl. of oil daily. Deepened 5 ft., the flow increased to 100 bbl. of oil an hour, and the well was estimated good for 2,000 bbl. of 35-gravity oil daily.

A well of that size at that shallow depth, in an area in which many dry holes had been drilled and only small production previously had been found, made Oklahoma oil men sit up and take notice. They were slow to become active in the new area, however, and by the end of June only one other test had been started in the immediate area. It was Shell Oil Co. No. 1 Ratliff, SE SE NE Section 19-7-17w, west offset to the discovery. No. 1 Ratliff failed to find the rich

(Continued on Page 135)

OKLAHOMA (Continued)

	January (bbl.)	February (bbl.)	March (bbl.)	April (bbl.)	May (bbl.)	June (bbl.)	Ttl. 6 mos. (bbl.)
Miscellaneous—							
Daily average	1,055	1,008	1,010	1,024	1,036	1,009	
Month	32,705	28,224	31,310	30,720	32,116	30,270	185,345
CREEK COUNTY:							
Glenn Pool, Sapulpa and Bowden—							
Daily average	3,768	4,078	4,285	3,805	4,139	4,010	
Month	116,808	114,184	132,835	114,150	128,309	120,300	726,586
Cushing-Shamrock—							
Daily average	9,969	10,083	10,014	9,939	10,107	9,962	
Month	309,039	282,324	310,434	298,170	313,317	298,860	1,812,244
Bristow district—							
Daily average	6,640	6,860	7,097	6,413	6,986	6,814	
Month	205,840	192,080	220,007	192,390	216,566	204,420	1,231,203
Manford and Olive—							
Daily average	1,975	2,063	2,196	2,088	2,075	2,060	
Month	61,225	57,764	68,076	62,640	64,325	61,800	375,830
Mounds and Miscellaneous—							
Daily average	299	317	281	251	271	267	
Month	9,269	8,876	8,711	7,530	8,401	8,010	50,797
Wilcox—							
Daily average	477	486	489	499	517	492	
Month	14,787	13,608	15,159	14,970	16,027	14,760	89,311
Independent—							
Daily average	650	688	690	643	670	666	
Month	20,150	19,264	21,390	19,290	20,770	19,980	120,844
Miscellaneous—							
Daily average	238	279	569	272	198	204	
Month	7,378	7,812	17,639	8,160	6,138	6,120	53,247
PAWNEE AND PAYNE COUNTIES:							
Yale district, Maramec and Jennings—							
Daily average	3,833	3,428	3,936	3,914	3,827	3,844	
Month	118,823	95,984	122,016	117,420	118,637	115,320	688,200
Ramsey—							
Daily average	2,627	3,004	3,504	3,677	4,270	4,518	
Month	81,437	84,112	108,624	110,310	132,370	135,540	652,393
Ripley and Mehan—							
Daily average	198	173	178	181	181	179	
Month	6,138	4,844	5,518	5,430	5,611	5,370	32,911
Watchorn—							
Daily average	306	325	301	302	289	292	
Month	9,486	9,100	9,331	9,060	8,959	8,760	54,696
Cleveland and Keystone—							
Daily average	873	877	947	1,107	1,098	1,062	
Month	27,063	24,556	29,357	33,210	34,038	31,860	180,084
Stillwater—							
Daily average	133	107	133	99	87	86	
Month	4,123	2,996	4,123	2,970	2,697	2,580	19,489
Lauderdale—							
Daily average	872	858	925	930	951	944	
Month	27,032	24,024	28,675	27,900	29,481	28,320	165,432
Coyle—							
Daily average	418	443	430	654	913	952	
Month	12,958	12,404	13,330	19,620	28,303	28,560	115,175
Norfolk and West Norfolk—							
Daily average	431	411	436	432	423	419	
Month	13,361	11,508	13,516	12,960	13,113	12,570	77,028
Miscellaneous—							
Daily average	388	282	299	296	292	291	
Month	12,028	7,896	9,269	8,880	9,052	8,730	55,855
OKLAHOMA COUNTY:							
Oklahoma City—							
Daily average	98,094	117,776	108,950	103,243	103,105	100,730	
Month	3,040,914	3,297,728	3,377,450	3,097,296	3,196,255	3,021,900	19,031,537
Edmond—							
Daily average	4,774	4,718	5,408	4,940	5,646	5,002	
Month	147,994	132,104	167,648	148,200	175,026	150,060	921,032
Britton—							
Daily average	740	684	671	818	777	781	
Month	22,940	19,152	20,801	24,540	24,087	23,430	134,950
Miscellaneous—							
Daily average	152	199	200	17	33	29	
Month	4,712	5,572	6,200	510	1,023	870	18,887
LINCOLN COUNTY:							
Sac and Fox—							
Daily average	2,955	3,526	3,971	3,711	3,493	3,712	
Month	91,605	98,728	123,101	111,330	108,283	111,360	644,407
Peck—							
Daily average	175	150	149	174	180	176	
Month	5,425	4,200	4,619	5,220	5,580	5,280	30,324
Chandler and Hoyt—							
Daily average	1,741	1,636	1,660	1,610	1,556	1,562	
Month	53,971	45,808	51,460	48,300	48,236	46,860	294,635
Stroud and Skellyville—							
Daily average	436	436	447	466	522	511	
Month	13,516	12,208	13,857	13,980	16,182	15,330	85,073
Wilzetta—							
Daily average	403	387	427	472	485	476	
Month	12,493	10,836	13,237	14,160	15,035	14,280	80,041
Lafoon—							
Daily average	622	502	588	573	566	582	
Month	19,282	14,056	18,228	17,190	17,546	17,460	103,762
Sporn—							
Daily average	436	438	395	337	299	291	
Month	13,516	12,264	12,245	10,110	9,269	8,730	66,134
Wellston—							
Daily average	848	790	734	742	740	733	
Month	26,288	22,120	22,754	22,260	22,940	21,990	138,352
Davenport—							
Daily average	466	524	487	476	503	497	
Month	14,446	14,672	15,097	14,280	15,593	14,910	88,998
Miscellaneous—							
Daily average	118	203	177	187	191	193	
Month	3,658	5,684	5,487	5,610	5,921	5,790	32,150
STEPHENS AND COTTON COUNTIES:							
Duncan district—							
Daily average	2,439	2,221	2,633	2,416	2,470	2,452	
Month	75,609	62,188	81,623	72,480	76,570	73,560	442,030
Loco-Milroy—							
Daily average	623	659	623	593	603	596	
Month	19,313	18,452	19,313	17,790	18,693	17,880	111,441
Velma—							
Daily average	778	674	864	835	878	871	
Month	24,118	18,872	26,784	25,050	27,218	26,130	148,172
Walters—							
Daily average	1,021	1,007	1,059	1,003	971	992	
Month	31,651	28,196	32,829	30,090	30,101	29,760	182,627
Comanche—							
Daily average	657	605	674	559	687	664	
Month	20,367	16,940	20,894	16,770	21,297	19,920	116,188
Miscellaneous—							
Daily average	194	168	168	217	213	217	
Month	6,014	4,704	5,208	6,510	6,603	6,510	35,549
CLEVELAND COUNTY:							
Moore—							
Daily average	3,627	3,606	3,412	2,792	2,868	2,836	
Month	112,437	100,968	105,772	83,760	88,908	85,080	576,925
Miscellaneous—							
Daily average	137	110	.....	.....	39	41	
Month	4,247	3,080	.....	.....	1,209	1,230	9,766

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OKLAHOMA (Continued)

	January (bbl.)	February (bbl.)	March (bbl.)	April (bbl.)	May (bbl.)	June (bbl.)	Ttl. 6 mos. (bbl.)
KAY, GRANT AND NOBLE COUNTIES:							
Blackwell, Deer Creek, Otstot, Caldwell and Webb—							
Daily average	1,119	1,208	1,127	818	801	803	
Month	34,689	33,824	34,937	24,540	24,831	24,090	176,911
Dilworth—							
Daily average	439	438	404	444	450	447	
Month	13,609	12,264	12,524	13,320	13,950	13,410	79,077
Lamont—							
Daily average	384	404	382	379	393	388	
Month	11,904	11,312	11,842	11,370	12,183	11,640	70,251
Ponca City—							
Daily average	225	210	224	208	248	239	
Month	6,975	5,880	6,944	6,240	7,688	7,170	40,897
Braman-North Braman-Southeast Braman—							
Daily average	1,697	1,697	1,604	1,568	1,661	1,649	
Month	52,607	47,516	49,724	47,040	51,491	49,470	297,848
Hubbard—							
Daily average	535	572	564	550	571	566	
Month	16,585	16,016	17,484	16,500	17,701	16,980	101,266
Thomas—							
Daily average	201	210	244	222	208	217	
Month	6,231	5,880	7,564	6,660	6,448	6,510	39,293
Tonkawa—							
Daily average	1,976	1,975	1,998	2,009	2,050	2,044	
Month	61,256	55,300	61,938	60,270	63,550	61,320	363,634
Billings—							
Daily average	5,331	5,345	6,590	6,665	6,797	6,710	
Month	165,261	149,660	204,290	199,950	210,707	201,300	1,131,168
Lucien—							
Daily average	8,240	8,132	9,591	9,683	9,606	9,582	
Month	255,440	227,696	297,321	290,490	297,786	287,460	1,656,193
North Lucien—							
Daily average	644	719	878	836	770	777	
Month	19,964	20,132	27,218	25,080	23,870	23,310	139,574
Vernon—							
Daily average	323	287	285	289	273	264	
Month	10,013	8,036	8,835	8,670	8,463	7,920	51,937
Polo—							
Daily average	1,222	1,331	1,410	1,402	1,372	1,381	
Month	37,882	37,268	43,710	42,060	42,532	41,430	244,882
Miscellaneous—							
Daily average	314	299	318	341	190	210	
Month	9,734	8,372	9,858	10,230	5,890	6,300	50,384
GARFIELD COUNTY:							
Garber—							
Daily average	1,737	1,766	1,943	1,862	1,986	1,942	
Month	53,847	49,448	60,233	55,860	61,566	58,260	339,214
Hillsdale—							
Daily average	199	222	152	254	126	165	
Month	6,169	6,216	4,712	7,620	3,906	4,950	33,573
Miscellaneous—							
Daily average	180	121	83	110	135	126	
Month	5,580	3,388	2,573	3,300	4,185	3,780	22,806
LOGAN COUNTY:							
Crescent—							
Daily average	3,367	3,278	3,151	3,065	3,118	3,147	
Month	104,377	91,784	97,681	91,950	96,658	94,410	576,860
Langston—							
Daily average	276	390	300	267	299	283	
Month	8,556	10,920	9,300	8,010	9,269	8,490	54,545
Marshall-Lovell-Seward—							
Daily average	303	338	374	378	363	361	
Month	9,393	9,464	11,594	11,340	11,253	10,830	63,874
Miscellaneous—							
Daily average	187	151	139	263	315	297	
Month	5,797	4,228	4,309	7,890	9,765	8,910	40,899
CARTER COUNTY:							
Healdton—							
Daily average	8,958	9,077	9,517	9,109	9,164	9,156	
Month	277,698	254,156	295,027	273,270	284,084	274,680	1,658,915
Hewitt—							
Daily average	3,675	3,606	3,969	3,871	4,043	3,953	
Month	113,925	100,968	123,039	116,130	125,333	118,590	697,985
Sholem-Alechem—							
Daily average	2,339	2,314	2,895	2,257	2,810	2,574	
Month	72,509	64,792	89,745	67,710	87,110	77,220	459,086
Wildcat Jim—							
Daily average	846	828	667	447	449	462	
Month	26,226	23,184	20,677	13,410	13,919	13,860	111,276
Tussey—							
Daily average	516	484	421	416	435	429	
Month	15,996	13,552	13,051	12,480	13,485	12,870	81,434
Tatums—							
Daily average	1,163	1,366	1,725	979	1,645	1,611	
Month	36,053	38,248	53,475	29,370	50,995	48,330	256,471
Graham-Fox—							
Daily average	3,435	3,286	3,529	3,499	3,234	3,262	
Month	106,485	92,008	109,399	104,970	100,254	97,860	610,976
Brock—							
Daily average	235	245	270	228	232	227	
Month	7,285	6,860	8,370	6,840	7,192	6,810	43,357
Miscellaneous—							
Daily average	201	235	8	13	18	20	
Month	6,231	6,580	248	390	558	600	14,607
COAL COUNTY:							
Daily average	438	458	483	99	86	89	
Month	13,578	12,824	14,973	2,970	2,666	2,670	49,681
LOVE COUNTY:							
Daily average	33	39	41	35	.....	.....	
Month	1,023	1,092	1,271	1,050	.....	.....	4,436
JEFFERSON COUNTY:							
Daily average	1,214	1,205	807	1,290	1,252	1,263	
Month	37,634	33,740	25,017	38,700	38,812	37,890	211,793
GARVIN COUNTY (Miscellaneous):							
Daily average	1,098	1,150	1,175	1,006	1,109	1,087	
Month	34,038	32,200	36,425	30,180	34,379	32,610	199,832
GRADY COUNTY:							
Daily average	1,823	1,659	1,830	1,544	1,809	1,794	
Month	56,513	46,452	56,730	46,320	56,079	53,820	315,914
MARSHALL COUNTY:							
Daily average	150	132	156	157	165	161	
Month	4,650	3,696	4,836	4,710	5,115	4,830	27,837
TILLMAN COUNTY:							
Daily average	1,379	1,418	1,367	1,427	1,461	1,457	
Month	42,749	39,704	42,377	42,810	45,291	43,710	256,641
JACKSON COUNTY:							
Daily average	1,107	1,178	1,285	1,241	1,476	1,416	
Month	34,317	32,984	39,835	37,230	45,756	42,480	232,602
CADDO COUNTY:							
Daily average	4,251	3,766	4,827	4,787	5,032	4,982	
Month	131,781	105,448	149,637	143,610	155,992	149,460	835,928
COMANCHE COUNTY:							
Daily average	8	8	7	4	6	6	
Month	248	224	217	120	186	180	1,175
Daily average	433,882	456,095	461,589	449,341	460,253	451,749	452,105
First 6 months 1939	13,450,342	12,770,660	14,309,259	13,480,470	14,267,843	13,552,470	81,831,044
First 6 months 1938	16,668,421	14,341,456	15,700,260	14,610,360	13,698,931	12,721,900	87,741,228
First 6 months 1937	17,914,063	16,942,744	19,736,150	19,983,090	20,067,075	19,265,610	113,908,732
First 6 months 1936	15,285,945	14,824,626	16,518,133	16,786,560	17,432,571	16,859,610	97,707,445
First 6 months 1935	14,926,779	13,668,956	15,401,358	15,345,660	16,012,244	15,674,610	91,029,607
First 6 months 1934	15,053,166	13,345,276	15,166,471	15,370,880	16,060,480	16,127,550	91,123,782

pay productive in No. 1 Watkins, but at 1,095 ft. it showed for 40 to 50 bbl. of oil daily. Operators were deepening, the well not having been completed by the middle of July. A wildcat south of the new area was a failure. Another wildcat is being drilled in Section 14-7-18w, 2 miles northwest of the discovery.

Deep Discovery at Doyle

Another interesting strike in southwestern Oklahoma was completed late in May at Phillips Petroleum Co. No. 1 Culbertson, NW NW SE Section 4-1n-5w, opening the West Doyle pool. It found Deese sand at 5,578-5,614 ft., drilled to 5,620 ft., plugged back to 5,616 ft. and made 24-hour potential of 1,071 bbl. of 42-gravity oil. Phillips No. 1 Coombs, SE SW NE Section 4-1n-5w, second well to be started in the area, apparently missed the Deese pay found in the discovery and currently was drilling ahead below 5,975 ft.

Results of Wildcat Drilling

County—	Oil and gas wells	Dry holes	Av. depth of dry holes
Beckham	0	1	2,017
Cleveland	0	3	7,806
Coal	0	1	5,381
Comanche	0	5	2,952
Cotton	0	3	1,301
Creek	3 (1 gas)	0	0
Garfield	2	4	5,607
Garvin	1 (gas)	2	3,669
Grady	1 (gas)	1	3,007
Hughes	0	3	3,407
Jefferson	1	0	0
Kay	0	1	4,502
Kingfisher	0	2	5,417
Kiowa	0	2	1,649
Lincoln	*1	3	3,973
Logan	0	1	5,373
Murray	0	1	2,505
Muskogee	0	2	1,284
Okfuskee	1	2	2,710
Oklahoma	1	1	6,492
Okmulgee	0	1	2,657
Osage	1	0	0
Payne	1 (gas)	2	4,271
Pittsburg	0	2	1,170
Pontotoc	0	2	1,814
Pottawatomie	2	3	4,307
Seminole	3	4	3,851
Stephens	1	0	0
Tillman	0	3	2,680
Total	18	55	

*Old well drilled deeper, not included in totals.

Average depth of oil and gas wells, feet	4,239
Average depth of dry holes, feet	3,617
Percentage of oil wells	19.2
Percentage of gas wells	5.5
Percentage of dry holes	75.3

OKLAHOMA

Summary of Wells Completed First Half of 1939

County—	Comp.	Prod.	Dry	Gas
Beckham	7	0	1	6
Caddo	21	8,061	2	5
Carter	15	968	5	0
Cherokee	2	0	2	0
Cleveland	5	0	5	0
Coal	3	1,249	2	0
Comanche	14	25	8	0
Cotton	3	0	3	0
Creek	112	6,111	36	7
Garfield	11	259	7	0
Garvin	2	0	2	0
Grady	8	335	3	2
Grant	0	0	0	0
Hughes	9	17	7	0
Jackson	21	1,433	1	0
Jefferson	3	15	2	0
Kay	5	4	4	0
Kingfisher	2	0	2	0
Kiowa	5	1	4	0
Lincoln	58	7,230	4	0
Logan	7	440	3	3
Love	1	0	1	0
Marshall	2	11	1	0
Mayes	1	0	1	0
McIntosh	1	0	0	1
Murray	3	0	3	0
Muskogee	22	55	16	2
Noble	5	5,812	0	0
Okfuskee	29	1,970	12	3
Oklahoma	22	2,166	8	2
Okmulgee	50	366	19	8
Osage	39	910	8	2
Pawnee	20	1,525	8	0
Payne	31	20,743	5	1
Pittsburg	2	0	2	0
Pontotoc	60	10,314	17	1
Pottawattomie	144	33,027	15	0
Rogers	1	0	1	0
Seminole	94	11,024	36	9
Stephens	31	1,730	6	4
Tillman	4	300	3	0
Tulsa	19	29	11	4
Wagoner	6	35	3	2
Total	900	116,165	279	62

Completions by Months

Month—	Comp.	Prod.	Dry	Gas
January	106	7,935	45	7
February	130	13,049	47	7
March	167	23,121	52	9
April	142	27,003	43	11
May	150	20,385	42	11
June	205	24,672	50	17
Total first half 1939	900	116,165	279	62
Total first half 1938	871	117,654	276	64
Difference	29	1,489	3	2

Osage County, the state's largest county and in which some of Oklahoma's more productive fields have been found in past years, provided two interesting developments in the first half of 1939. One was development of the Soldani area in Township 25-4e, west of the Burbank field. This was an old district in which one small well had been producing for several years. The Olson Oil Co. began development there this year and to date have completed six wells, including three producers and three failures. Largest of the producers flowed 86 bbl. of oil an hour on 6-hour test. Production is from the Burbank section at around 3,100 ft. Geology of the area is erratic and, despite the three failures, extent of the productive area remained to be determined.

In northeastern Osage County, in the heart of one of the oldest producing districts in Oklahoma, Charles Petroleum Co. and associates opened a Prue sand pool in June at No. 1 Pierce, C S½ NW NW Section 10-28-11. It had Prue sand at 951-92 ft., total depth, and after a shot flowed 350 bbl. of oil in 48 hours and was completed for 102 bbl. of oil daily on the pump. A second producer has been completed in the new area.

A new total depth record for the state was established at Continental Oil Co.'s Washita County wildcat, No. 1 Proctor, C NW Section 28-10-20w, southeast of Elk City. It was drilling at 13,441 ft.

Oil production in Oklahoma was seriously affected by the unrestricted development of the Illinois fields, and the total crude output of the state for the half year was reduced to 81,831,044 bbl., an average of 452,105 bbl. per day. In the same period in 1938 the total was 87,741,228 bbl., showing a decline in the first 6 months of this year of 5,910,184 bbl. As an indication of what Oklahoma producers were up against this year the Ramsey pool may be cited. Wells that were good for from 5,000 to 12,000 bbl. or more per day in potential initial production, were squeezed down to a point where the pool was never allowed to produce more than 4,518 bbl. per day, when it could have produced as high as 120,000 bbl. per day. The Oklahoma City field with a short-time flush potential of 700,000 bbl. or more never was permitted to produce over 118,000 bbl. per day during the 6 months' period.

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Semi-Annual Review

YOAKUM COUNTY POOLS JOINED INTO ONE OF LARGEST FIELDS IN U.S.

By D. H. STORMONT

The outstanding result of drilling in the West Texas district in the first half of 1939 was the joining of the Wasson-Denver pool and the Bennett pool of Yoakum County. Despite the fact that seven new fields or new producing horizons for old fields were discovered in the half year, the greatest oil reserve was uncovered when 6,000 acres were added to the two great Yoakum County fields. The area is now called the Wasson-Denver-Bennett pool and has a total proven territory of approximately 50,000 acres. Based on a recovery figure of 8,000 bbl. per acre, there is a total reserve in the pool of about 400,000,000 bbl., by far the greatest of any West Texas field.

Five oil fields and two deeper producing horizons in old fields were the results of the first half year's wildcatting in West Texas. The discoveries included one pool each in Cochran, Pecos and Yoakum counties; two fields in Schleicher County; and a deep horizon in the Masterson pool of Pecos County and in the North Cowden pool of Ector County. Perhaps the most important of these discoveries was the Anderson-Prichard Oil Co. and Monte Warner No. 1 Masterson which opened a deep Ellenburger, of lower Ordovician, pool in the heart of the old Masterson field of Pecos County. The well was completed for 183 bbl. daily at 4,555-95 ft. It is located in Section 104, Block 10. There has been no further development in the area.

Shortly after the discovery of the Ellenburger production in the Masterson pool, Leidecker & Cain uncovered oil sand in No. 1 Lehn, Section 71, Block 10, H.&G.N. Survey, but as the first half of the year closed no potential gage had been taken. The test has been deepened from 1,743 ft. to 1,783 ft. and continues to test at that depth.

Schleicher County was given two new oil pools in June, the first crude oil production in the county. In the Bert Page area, where two large gas and distillate wells had been completed, Lone Star Gas Co. brought in No. 1 Bert Page for a Railroad Commission gage of 158 bbl. daily from the Strawn formation, which bore saturation at 5,727-47 ft. The producer is located in Section 30, Block L, G.H.&S.A. Survey, and several other tests were drilling toward the oil producing horizon as the year passed the half-way mark. The other Schleicher County discovery is yet ungaged. It is Harold B. Opp No. 1 J. T. Jackson, Section 41, Block LL, G.H.&S.A. Survey. The test drilled saturation from 4,049-61 ft. in the Cisco sand and has been estimated at 25 bbl. daily based on preliminary tests.

Deep Possibilities

Promising deep possibilities for the North Cowden pool of Ector County, Gulf Oil Corp. in June completed No. 1 Holt, Section 1, Block A, P.S.L. Survey, ½ mile west of the north end of the North Cowden pool for an official gage of 217 bbl. daily. Production is from 5,148-61 ft., about 1,100 ft. below the regular pay of the field. Several outlying tests, either old abandonments or new starts, were drilling toward this deep horizon as the year went into its second half.

Cochran County was given a new oil pool in June

WEST TEXAS

Daily Average and Monthly Production in First Six Months of 1939

	January (bbl.)	February (bbl.)	March (bbl.)	April (bbl.)	May (bbl.)	June (bbl.)	Ttl. 6 mos. (bbl.)
BENNETT:							
Daily average	3,303	3,463	3,094	3,437	3,080	3,067	
Month	102,408	96,976	95,906	103,101	95,491	92,019	585,901
CHURCH-FIELD:							
Daily average	4,886	4,784	4,874	5,179	5,065	5,059	
Month	151,457	133,956	151,107	155,383	157,012	151,762	900,677
COWDEN-CRANE:							
Daily average	1,288	1,296	1,240	1,151	1,118	1,119	
Month	39,940	36,288	38,427	34,544	34,672	33,559	217,430
COWDEN—NORTH:							
Daily average	7,866	7,221	7,678	7,745	9,172	8,862	
Month	243,853	202,219	238,011	232,366	284,327	265,853	1,466,629
COWDEN—SOUTH:							
Daily average	233	233	277	228	246	242	
Month	7,213	6,516	8,587	6,834	7,622	7,257	44,029
DEEP ROCK:							
Daily average	193	195	204	169	214	210	
Month	5,973	5,470	6,328	5,078	6,623	6,307	35,779
DUGGAN:							
Daily average	390	359	342	351	342	344	
Month	12,078	10,054	10,605	10,521	10,599	10,320	64,177
DUNE:							
Daily average	215	245	334	389	420	411	
Month	6,679	6,852	10,354	11,665	13,030	12,322	60,902
EAVES:							
Daily average	307	303	300	285	285	276	
Month	9,513	8,496	9,305	8,539	8,826	8,286	52,965
EMPEROR:							
Daily average	1,277	1,246	1,377	1,090	.....	807	
Month	39,576	34,889	42,699	32,700	24,585	24,214	198,663
ESTES:							
Daily average	6,372	6,183	6,398	6,117	.....	6,089	
Month	197,538	173,125	198,339	183,516	185,854	182,676	1,121,048
FOSTER:							
Daily average	7,208	7,356	7,687	7,987	7,930	7,519	
Month	223,460	205,923	238,284	239,603	245,838	225,570	1,378,678
FUHRMAN:							
Daily average	1,349	1,454	1,531	1,551	1,703	1,710	
Month	41,803	40,716	47,472	46,517	52,794	51,306	280,608
GOLDSMITH:							
Daily average	18,557	18,747	19,405	18,682	21,163	20,014	
Month	575,271	524,924	601,567	560,458	565,065	600,420	4,327,705
GULF-McELROY:							
Daily average	3,377	3,351	3,515	3,467	3,342	3,343	
Month	104,683	93,839	108,976	104,019	103,596	100,266	615,379
HALLEY:							
Daily average	422	390	414	388	444	440	
Month	13,071	10,918	12,832	11,649	13,776	13,206	75,452
HARPER:							
Daily average	7,727	7,599	7,619	6,974	5,424	5,116	
Month	239,538	212,784	236,182	209,232	168,156	153,480	1,219,372
HENDERSON:							
Daily average	2,620	2,654	2,545	2,706	2,628	2,590	
Month	81,207	74,309	78,888	81,180	81,482	77,711	474,777
HENDRICK:							
Daily average	10,412	10,126	10,224	10,032	9,598	9,080	
Month	322,781	283,527	316,941	300,963	297,543	272,391	1,794,146
HOWARD-GLASSCOCK:							
Daily average	13,778	13,304	13,914	14,117	15,372	15,262	
Month	427,133	372,523	431,344	423,497	476,531	457,849	2,588,877
IATAN-EAST HOWARD:							
Daily average	5,312	5,163	5,255	5,077	5,239	5,196	
Month	164,659	144,578	162,921	152,322	162,411	155,882	942,773
JORDAN:							
Daily average	2,407	2,445	2,636	2,537	2,646	2,641	
Month	74,628	68,463	81,709	76,102	83,036	79,236	462,174
KERMIT:							
Daily average	14,653	14,054	14,375	14,611	15,215	15,600	
Month	454,254	393,517	445,609	438,319	471,669	467,991	2,671,359
KEYSTONE (lime):							
Daily average	1,613	1,611	1,758	1,678	1,539	1,563	
Month	49,999	45,103	54,502	50,349	47,711	46,887	294,551
KEYSTONE-COLBY:							
Daily average	1,556	1,617	1,839	1,833	1,892	1,877	
Month	48,243	45,273	57,007	54,992	58,639	56,311	320,465
LECK:							
Daily average	275	297	279	291	262	252	
Month	8,539	8,314	8,652	8,729	8,132	7,569	49,935
MASON:							
Daily average	262	256	261	215	262	262	
Month	8,115	7,168	8,099	6,460	6,735	7,858	44,435

(Continued on Next Page)

WEST TEXAS DISCOVERIES FIRST HALF OF 1939

County, location, and discovery well—	Date	Depth	Gage	Formation	No. wells	Name of pool	Remarks
Pecos, Sec. 104, Blk. 10, Masterson pool, Anderson-Prichard Oil Co. and Monte Warner No. 1 Masterson	May	4,555-95	183 bbl. per day	Ellenburger of Lower Ordovician	1	Apco pool	Deep horizon in Masterson pool
Pecos, Sec. 71, Blk. 10, H.&G.N. Sur., Leidecker & Cain No. 1 Lehn	May	(T.D.) 1,783	Still in testing stage	Permian	1	Lehn area	.....
Schleicher, Sec. 30, Blk. L, G.H.&S.A. Sur., Lone Star Gas Co. No. 1 Bert Page	June	5,727-47	158 bbl. per day	Strawn	1	Bert Page pool	First oil well in a 2-well gas pool
Schleicher, Sec. 41, Blk. LL, G.H.&S.A. Sur., Harold B. Opp No. 1 J. T. Jackson	June	4,049-61	25 bbl. per day (est.)	Cisco sand	1	Opp pool	.....
Ector, Sec. 1, Blk. A, P.S.L. Sur., ½ mile W of N. Cowden, Gulf Oil Corp. No. 1 Holt	June	5,148-61	217 bbl. per day	Permian	1	.....	Deep horizon for N. Cowden field
Cochran, Labor 7, League 94, Mills County School Lands, T. G. Shaw No. 1 C. Slaughter Dean	June	4,982-5,005	420 bbl. per day	Big lime of Permian	1	Show-Dean	.....
Yoakum, Sec. 616, 2 miles NE of Bennett pool, Shell Oil Co., Inc., No. 1 Waples-Platter Co.	June	5,300-80	90 bbl. (est.)	Big lime of Permian	1	Waples-Platter	.....

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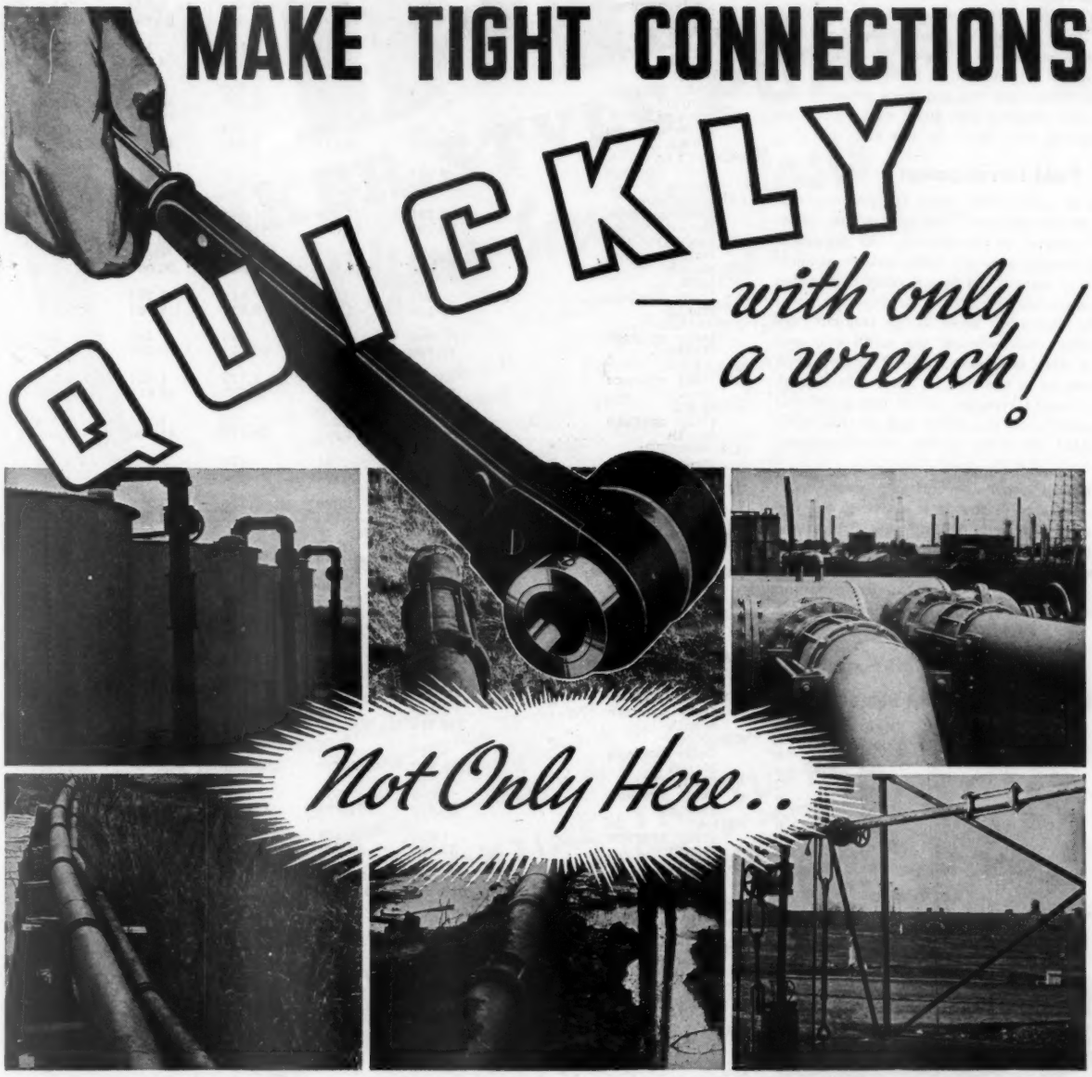

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12. *Miscellaneous uses* in gasoline plants and at loading racks.

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when T. G. Shaw completed No. 1 Carrie Slaughter Dean, Labor 7, League 94, Mills County School Lands, for 420 bbl. daily following acidization in the lime from 4,982 ft. to 5,005 ft. The area is about 6 miles northwest of the Duggan pool, 2¾ miles north of the Dean pool and 3 miles south of the Livermore-Wright area.

In Yoakum County, and in Section 616, about 3 miles northeast of the north end of the Bennett field, Shell Oil Co., Inc., opened a small producing area when No. 1 Waples-Plater Co. came in for an estimated 90 bbl. daily. Production is from the Big Lime from 5,300-80 ft. The well has not been given a pipe line connection and remains shut down with no further development having been done in the area.

Field Development

The addition of some 6,000 acres to the now connected Wasson-Denver-Bennett pool of Yoakum County led the field activity in the district. The Slaughter pool of Hockley County received 5,000 additional acres of proven territory during the past 6 months to bring its total to approximately 15,000 acres. The next greatest addition was 3,000 acres to the Duggan pool of Cochran County. Outposts on the south and east side of this pool have increased its total proven acreage to about 5,000 as of the first of July. The Sharon pool of Scurry County received about 620 additional acres. Steady activity on the north end of the North Cowden pool added 400 acres to the proven territory of that field.

As the year passed into its second half Ector, Pecos and Yoakum counties were the most active in the district with a total of 140 wells drilling and 60 locations in the three counties. The greatest amount of drilling during the next half year is expected to be in the northern part of the basin where many thousand acres have been proven or semiproven and are yet undrilled.

WEST TEXAS

Summary of Wells Completed First Half of 1939

County—	Comp.	Prod.	Dry	Gas
Andrews	44	55,290	6	0
Borden	1	0	1	0
Cochran	3	982	0	0
Coke	1	0	1	0
Concho	1	0	1	0
Crane	50	80,830	6	0
Crockett	13	1,099	0	0
Culberson	2	0	2	0
Dawson	1	0	1	0
Ector	247	269,191	5	0
El Paso	1	0	1	0
Gaines	21	20,808	2	0
Garza	1	0	1	0
Glasscock	1	0	1	0
Hockley	10	9,259	0	0
Howard	46	30,248	4	0
Irion	1	0	1	0
Kent	1	0	1	0
Kimble	2	0	2	0
Martin	1	0	1	0
Mitchell	1	0	1	0
McCulloch	2	0	1	1
Nolan	1	0	1	0
Pecos	103	21,649	16	0
Presidio	1	0	1	0
Reeves	2	16	1	0
Schleicher	3	158	1	1
Scurry	5	604	1	0
Stonewall	3	435	1	0
Tom Green	2	0	2	0
Upton	50	23,716	4	0
Ward	94	28,690	4	0
Winkler	67	30,097	2	1
Yoakum	106	112,329	3	0
Total	888	685.401	76	3

Completions by Months

Month—	Comp.	Prod.	Dry	Gas
January	158	120,678	11	1
February	150	113,644	18	0
March	117	112,655	11	0
April	148	114,701	11	0
May	178	113,509	16	0
June	137	110,214	9	2
Total	888	685,401	76	3
Total same period 1938	1,086	817,058	113	10
Difference	198	131,657	37	7

In the Wasson-Bennett-Denver area, the number of operations should continue to show a general increase from week to week due to farming out of producing leases, forced offsets and leases carrying drilling contracts. While the total number of operations probably will not greatly exceed those of the first 6 months, this area is now in a stage of development that requires the running of a large number of rigs in order to satisfy offset requirements. Also since the field gained another pipe line outlet and will soon have a third, elimination of pipe line proration should act to increase activity.

In the extreme northern fields, Slaughter and Dug-

WEST TEXAS (Continued)

	January (bbl.)	February (bbl.)	March (bbl.)	April (bbl.)	May (bbl.)	June (bbl.)	Ttl. 6 mos. (bbl.)
MASTERSON:							
Daily average	340	327	268	286	257	260	
Month	10,544	9,161	8,300	8,588	7,955	7,802	52,350
McCLINTIC:							
Daily average	1,000	992	1,080	1,039	1,012	1,002	
Month	30,998	27,784	33,484	31,171	31,398	30,058	184,893
MEANS:							
Daily average	2,550	2,631	2,867	2,782	2,781	2,766	
Month	79,044	73,679	88,865	83,457	86,199	82,980	494,224
NETTERSVILLE:							
Daily average	172	181	173	154	156	152	
Month	5,334	5,071	5,378	4,614	4,842	4,560	29,799
PAYTON:							
Daily average	2,116	2,267	2,852	2,774	2,601	2,588	
Month	65,601	63,465	88,400	83,209	80,620	77,644	458,939
PECOS VALLEY:							
Daily average	1,197	1,376	1,484	1,342	1,383	1,382	
Month	37,095	38,541	46,005	40,257	42,878	41,456	246,232
PENWELL:							
Daily average	3,504	3,433	3,513	3,377	3,831	3,817	
Month	108,628	96,121	108,901	101,308	118,749	114,510	648,217
SAND HILLS:							
Daily average	1,283	1,316	1,343	1,274	1,456	1,459	
Month	39,782	36,860	41,647	38,226	45,134	43,770	245,419
SCARBOROUGH:							
Daily average	1,847	1,875	1,953	1,869	1,849	1,840	
Month	57,251	52,514	60,532	56,064	57,319	55,196	338,876
SEALEY:							
Daily average	327	276	317	297	317	312	
Month	10,140	7,724	9,831	8,904	9,842	9,364	55,805
SEMINOLE							
Daily average	506	437	498	445	426	430	
Month	15,700	12,225	15,453	13,353	13,220	12,904	82,855
SHEARER:							
Daily average	999	1,049	1,370	1,427	1,167	1,182	
Month	30,963	29,373	42,463	42,811	36,169	35,466	217,245
SHIPLEY:							
Daily average	1,248	1,223	1,273	1,393	1,374	1,366	
Month	38,700	34,257	39,478	41,790	42,593	40,977	237,795
SLAUGHTER:							
Daily average	744	767	873	793	1,084	1,007	
Month	23,050	21,465	27,050	23,793	33,598	30,210	159,166
SNYDER:							
Daily average	1,858	1,889	2,034	2,318	2,465	2,475	
Month	57,607	52,895	63,043	69,544	76,409	74,244	393,742
TAYLOR-LINK:							
Daily average	1,184	1,229	1,344	1,436	1,523	1,517	
Month	36,694	34,409	41,678	43,078	47,226	45,511	248,596
TOBARG:							
Daily average	1,545	1,480	1,694	1,797	1,747	1,736	
Month	47,896	41,445	52,523	53,917	54,158	52,072	302,011
WADDELL:							
Daily average	1,086	1,088	1,166	1,095	999	1,007	
Month	33,662	30,459	36,134	32,839	30,963	30,221	194,278
WARD—NORTH:							
Daily average	5,397	5,319	5,476	5,038	5,126	5,118	
Month	167,301	148,937	169,767	151,149	158,914	153,533	949,601
WARD—SOUTH:							
Daily average	7,759	7,449	7,366	6,646	6,817	6,779	
Month	240,518	208,569	228,358	199,369	211,332	203,370	1,291,516
WASSON:							
Daily average	9,013	9,312	9,650	10,283	10,785	10,762	
Month	279,392	260,720	299,156	308,503	334,347	322,862	1,804,980
WESTBROOK:							
Daily average	693	636	696	730	724	715	
Month	21,477	17,818	21,578	21,892	22,449	21,454	126,668
WHEAT:							
Daily average	1,224	1,179	1,170	1,228	1,175	1,182	
Month	37,931	33,001	36,266	36,832	36,416	35,466	215,912
YATES:							
Daily average	19,885	19,172	19,804	20,595	23,062	22,914	
Month	616,424	536,829	613,805	617,852	714,919	687,427	3,787,356
BIG LAKE:							
Daily average	6,646	6,667	6,420	6,659	6,448	6,460	
Month	206,030	186,677	199,026	199,778	199,894	193,800	1,185,205
McCAMEY:							
Daily average	13,811	13,559	13,824	15,049	13,256	12,518	
Month	428,139	379,639	428,544	451,456	410,950	405,549	2,504,277
WORLD:							
Daily average	1,000	983	1,007	989	933	916	
Month	31,007	27,538	31,214	29,680	28,910	27,476	175,825
EMMA:							
Daily average	.....	768	940	989	793	784	
Month	.....	21,511	29,142	29,766	24,585	23,325	128,529
MAGNOLIA-SEALY:							
Daily average	.....	.....	.....	455	465	502	
Month	.....	.....	.....	13,646	14,428	15,062	43,136
MISCELLANEOUS POOLS:							
Daily average	.....	917	1,000	955	1,128	.....	
Month	28.185	25.679	30.995	28,641	34,965	33,639	182,104
Daily average	207,700	209,703	212,831	213,804	215.553	216,020	212,013
First 6 months 1939	6,438,705	5,761,086	6,597,769	6,414,125	6,682,136	6,480,616	38,374,437
First 6 months 1938	5,710,776	5,115,958	5,936,660	5,908,270	5,596,757	5,416,811	33,685,232
First 6 months 1937	5,406,938	5,391,326	6,579,662	6,145,724	6,609,318	6,385,562	36,518,530
First 6 months 1936	4,553,683	4,423,051	5,162,895	5,187,630	5,444,065	5,060,640	29,831,964
First 6 months 1935	4,552,381	4,149,964	4,600,741	4,392,450	4,469,983	4,305,750	26,471,269

Miscellaneous fields and their production for the 6 months period are: Carter, 6,451 bbl.; Dean, 9,609 bbl.; Dobbs, 1,297 bbl.; Edwards, 1,375 bbl.; Garza, 2,161 bbl.; Johnson, 11,434 bbl.; Monroe, 3,890 bbl.; Moore, 3,804 bbl.; Northwest, 13,875 bbl.; Parker, 5,222 bbl.; Swenson, 504 bbl.; West, 4,423 bbl.; White and Baker, 5,413 bbl.; Beddo, 251 bbl.; Crockett, 27,290 bbl.; Grayson, 20,556 bbl.; Herrington, 9,985 bbl.; Hurdle, 23,666 bbl.; Irion, 3,036 bbl.; McMillan, 11,259 bbl.; Webb Ray, 5,571 bbl.; Richards, 400 bbl.; Anthony, 650 bbl.; Apco, 3,195 bbl.; Wapples-Platter, 1,687 bbl. Total, 182,104 bbl.

TEXAS PANHANDLE

	January (bbl.)	February (bbl.)	March (bbl.)	April (bbl.)	May (bbl.)	June (bbl.)	Ttl. 6 mos. (bbl.)
GRAY COUNTY:							
Daily average	28,921	28,040	28,533	32,654	29,481	30,634	
Month	896,557	785,120	884,520	979,627	913,908	919,028	5,378,760
HUTCHINSON COUNTY:							
Daily average	22,059	22,041	22,621	24,496	23,759	24,050	
Month	683,828	617,148	701,256	734,882	736,524	721,505	4,195,143
CARSON COUNTY:							
Daily average	6,160	6,852	6,332	7,517	6,549	7,127	
Month	190,965	191,856	196,295	225,513	203,019	213,805	1,221,453
MOORE COUNTY:							
Daily average	1,192	1,285	1,256	1,276	1,301	1,355	
Month	36,952	35,984	38,938	38,274	40,331	40,653	231,132
WHEELER COUNTY:							
Daily average	5,646	5,475	5,311	6,512	5,829	6,755	
Month	175,026	153,297	164,644	195,361	180,712	202,643	1,071,683
Daily average	63,978	63,693	64,053	72,455	66,919	69,921	66,836
First 6 months 1939	1,983,328	1,783,405	1,985,653	2,173,657	2,074,494	2,097,634	12,098,171
First 6 months 1938	2,080,095	1,741,282	2,085,782	2,013,634	1,863,050	1,854,298	11,638,141
First 6 months 1937	2,092,717	2,079,000	2,366,695	2,283,120	2,602,062	2,576,445	14,000,039
First 6 months 1936	1,918,900	1,702,039	1,908,856	1,855,770	2,009,203	1,841,880	11,236,648
First 6 months 1935	1,833,743	1,725,864	1,974,173	1,801,110	1,893,790	1,796,910	11,025,590

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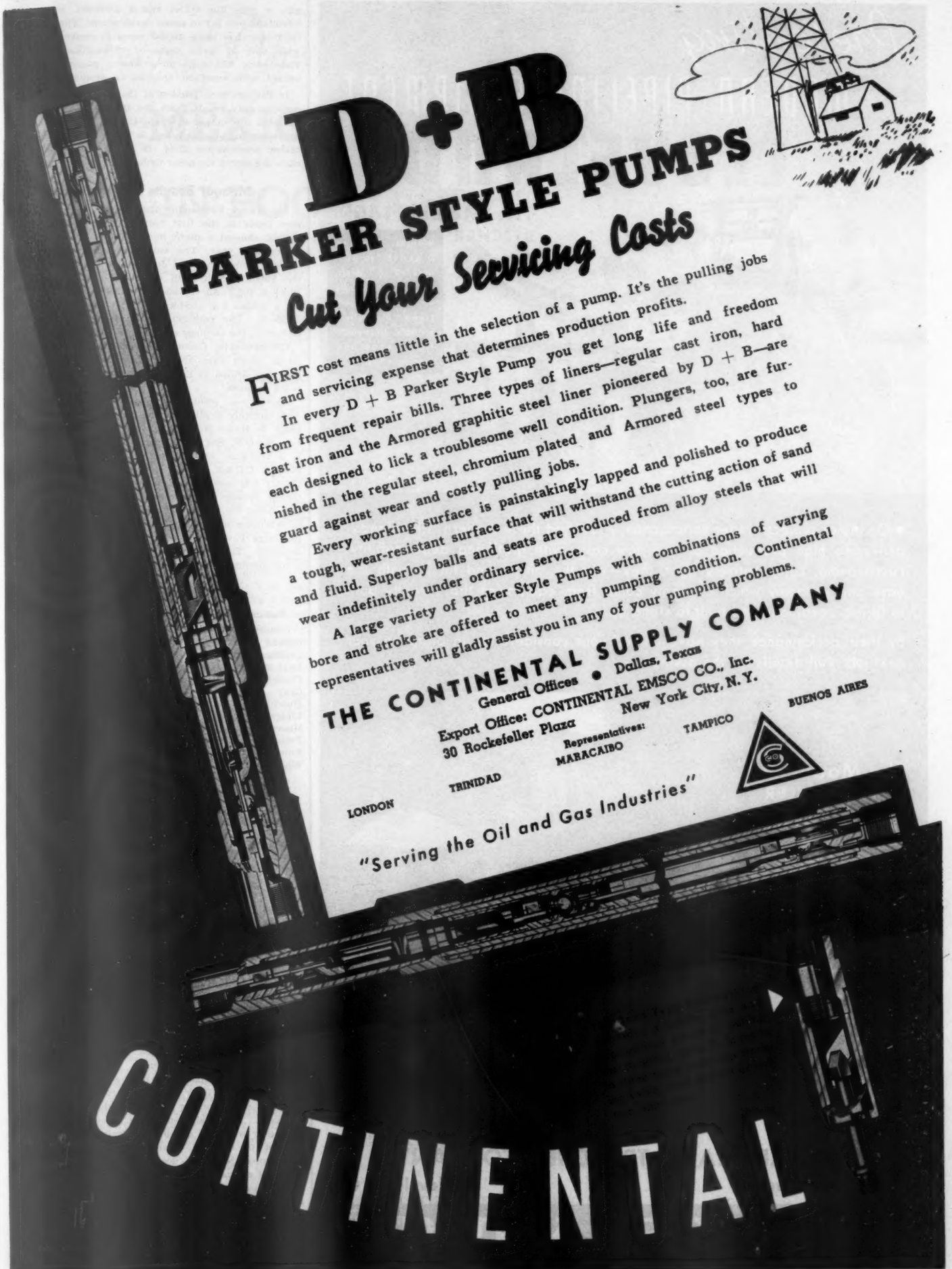

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gan, a pipe line outlet and a 4,500-bbl. refinery at Levelland will act to speed development. The Slaughter field now has some 15,000 acres of proven territory with only 21 wells scattered throughout the area. Thus some 350 wells on a 40-acre spacing could be drilled with excellent chances of production.

In the southern portion of the Permian basin some activity may result from the finding of shallow Ordovician production in Pecos County (Apco field), but development of this area is expected to be along rather conservative lines. In any event, it will stimulate the search for other Ordovician fields in that area.

Meager Results in Panhandle

The Texas Panhandle district was not given any new fields in the first half of 1939, although wildcatting showed a slight increase over the comparable period last year. The only successful result of the wildcat campaign as of July 1 was the completion of the Sinclair Prairie Oil Co. No. 1 Bush, Section 23, Block 6, B.S.F. Survey about 3 miles north of Amarillo, for a helium gas producer at a plugged-back depth of 3,590 ft. The contract depth of the wildcat when started in the summer of 1938 was 8,500 ft.

Collingsworth County received four wildcat tests, all of which were abandoned as dry. One deep dry hole was drilled in Borden, Donley, Roberts and Lipscomb counties.

As the year went into its second half two wildcats were actively drilling in the area, the Holmes, Newblock & Haley No. 1 Ed Moore, Section 319, Block 4-B, H.&G.N. Survey, in Armstrong County and the E. J. Dunigan, Jr., Trustee No. 1 Dedrick, Section 34, Block C, C.G.&M. Survey, Roberts County. The Roberts County test was drilling below 3,700 ft. and the Armstrong County test was below 865 ft. Much interest was being shown in the area by the Ed Mayer and L. Whitaker test which is in the promotion stages on the large Pavillard ranch about 2 miles northeast of Amarillo. The operators are attempting to make it a community test but as yet it has not been spudded.

PANHANDLE DISTRICT

Summary of Wells Completed First Half of 1939

County—	Comp.	Prod.	Dry	Gas
Carson	33	8,806	2	10
Collingsworth	2	0	2	0
Deaf Smith	1	0	1	0
Donley	2	0	2	0
Gray	50	16,323	0	5
Hutchinson	58	18,069	1	7
Lipscomb	1	0	1	0
Moore	19	62	7	11
Potter	4	0	0	4
Roberts	2	0	2	0
Wheeler	9	1,706	1	1
Total	181	44,966	19	38

Completions by Months

Month—	Comp.	Prod.	Dry	Gas
January	35	11,892	5	4
February	21	6,032	3	2
March	31	6,964	6	3
April	31	6,449	3	9
May	30	7,622	1	7
June	33	6,007	1	13
Total	181	44,966	19	38
Total same period 1938	325	125,994	14	55
Difference	144	81,028	5	17

Gas Field Activity

Development of the large Panhandle gas field continued at its normal rate as the half year closed with about 100 rigs running in the field and an average of about eight new wells per week. Little extension activity has been carried on with the exception of several gas wells drilled on the southern flank of the structure and in Potter County.

Much of the exploration in the Panhandle was in Land, Parmer, Hale and Armstrong counties, and probably will continue so during the second half of the year. The Bush dome area received quite a setback due to failure of Sinclair Prairie Oil Co.'s 8,500-ft. test to find oil production in pre-Pennsylvania formations. No other deep tests were drilled as the result of seismograph work in the area, although several companies had crews working. Search for deeper pays, probably in pre-Pennsylvania beds, will be continued throughout coming months as possibility of this production is believed to be highly favorable.

Oil production in the Panhandle in the first 6 months was 12,098,171 bbl. as against 11,648,141 bbl. in the same period last year, an increase of 460,030 bbl.

Semi-Annual Review

NEW MEXICO LED ROCKY MOUNTAIN AREA IN POOL DISCOVERIES

By T. R. INGRAM

Outside of New Mexico results of exploratory work in the Rocky Mountain states in the first half of 1939 were meager. Southeastern New Mexico had five oil discoveries which opened new pools. Three were in Lea County, one in Chaves County, the first producing well in that district, and one in Eddy County. There was a net gain of 232 units of 40 acres each in proven area in the Lea County pools, and Eddy County had its most extensive drilling campaign in several years.

The Lovington pool in Lea County, near the town of the same name and due north of the string of pools on the east side of the county, was discovered in January by Skelly Oil Co. No. 1-N State, C NW NE Section 36-16-36. It was completed at 5,012 ft., total depth, for 110 bbl. daily from pay topped at 4,675 ft. Production was through tubing choke after acidizing with 2,000 and 5,000 gal. The oil was 37.1 gravity, with gas-oil ratio of 447-1. Location was 2 miles north of a gas discovery made late in 1938 by the Westmount Oil Co. The second oil well completed was 2 miles south of the discovery and a diagonal offset to the gas discovery in the Amerada Petroleum Corp. No. 1-LA State, C SE SW Section 1-17-36. It was completed in the lime at 4,813 ft. and was given an official rating of 594 bbl. daily after acidizing with 1,000 and 2,000 gal. The Stanolind Oil & Gas Co. No. 1 State, C SW SE Section 1, an east offset to the Amerada well, swabbed dry at 4,980 ft. after acidizing, was plugged back to 4,153 ft. and completed for 6,850,000 cu. ft. of sweet gas daily with a flowing pressure of 1,900 lb. The Stanolind then completed a 768-bbl. well in its No. 2-E State, C SE NW Section 1-17-36. At the end of June there were nine wells on production, all taking the maximum allowable, and three wells drilling.

NEW MEXICO

Summary of Wells Completed First Half of 1939

County—	Comp.	Prod.	Dry	Gas
McKinley	2	356	0	0
Rio Arriba	1	0	1	0
San Juan	9	236	3	0
Lea	225	117,241	15	7
Eddy	34	2,974	16	1
De Baca	2	0	2	0
Total	273	120,807	37	8

Completions by Months

Month—	Comp.	Prod.	Dry	Gas
January	48	21,492	7	1
February	42	26,393	4	0
March	36	24,405	5	2
April	55	16,669	5	3
May	48	21,297	13	1
June	44	10,551	3	1
First half 1939	273	120,807	37	8
First half 1938	266	97,030	30	7
Difference	7	23,777	7	1

A discovery was made early in May in the Continental Oil Co. No. 1 Lynn A-28, C SW NE Section 28-23-36, between the Lynn and Cooper pools. It was temporarily classed as a pool opener, but it is expected eventually to prove the connecting link between the two pools. Total depth was 3,668 ft. and the pay was at 3,654-59 ft. It flowed 450 bbl. naturally in 1 hour between casing and drill pipe. Later, 2-in. tubing was set at 3,659 ft. and it flowed 71 bbl. of oil an hour through a ¾-in. choke with gas gaging 887,000 cu. ft. daily.

The third Lea County discovery was to the northwest of the Vacuum area in Carper & Taylor No. 1 Taylor, 330 ft. from the south and west lines of Section 30-16-32, about 2½ miles north of the Mitchell pool. It made 15 bbl. daily through 2-in. tubing set at 3,930 ft. Total depth was 4,015 ft. after plugging back from 4,097 ft., and top of the pay was at 3,860 ft.

The new Eddy County pool is the Loco Hills field discovered in February in Martin Yates No. 1 Government, C NW SW Section 6-18s-30e. It had the pay at 2,808-74 ft. and made 420 bbl. in 20 hours. A play around the well began at once and at the end of June there were 11 wells on production and 20 wells drilling. The first important extension was in April when Allen, Fair & Pope No. 1 Snowden & McSweeney, SE NE SE Section 36-17-29, flowed 100 bbl. in 24 hours through the casing from sand at 2,740-60 ft., and total depth of 2,775 ft. This location is a mile to the north of the discovery.

Chaves County, which lies directly north of Lea County, had its first producing well in May with a discovery in Nay Hightower No. 1 Billingslee, C SW NE Section 28-11-30. It is located on the trend northwest from the Vacuum field and due north of the Artesia-Maljamar-Grayburg district in Eddy County. It was drilled to 3,445 ft. and was plugged back to

(Continued on Page 146)

NEW MEXICO

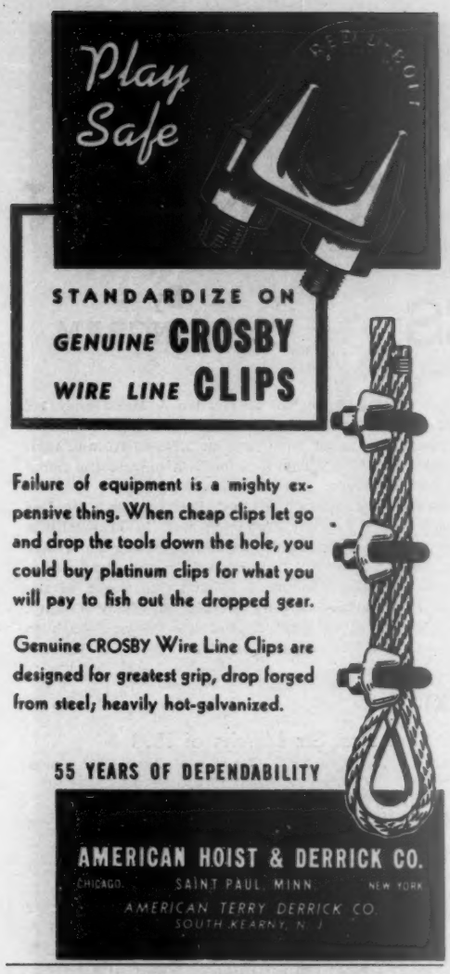
Daily Average and Monthly Production in First Six Months of 1939

	January (bbl.)	February (bbl.)	March (bbl.)	April (bbl.)	May (bbl.)	June (bbl.)	Ttl. 6 mos. (bbl.)
ARTESIA, GRAYBURG AND JACKSON:							
Daily average	7,244	6,519	.....	.....	.....	.....	
Month	224,559	182,542	.....	.....	.....	.....	407,101
ARTESIA:							
Daily average	.....	.....	508	499	497	502	
Month	.....	.....	15,761	14,973	15,400	15,067	61,201
GRAYBURG-JACKSON:							
Daily average	.....	.....	5,092	4,924	4,972	5,084	
Month	.....	.....	157,537	147,732	154,136	152,527	611,932
AZTEC:							
Daily average	5	5	.....	7	.....	.....	
Month	146	145	.....	210	.....	.....	501
BARBER:							
Daily average	44	.....	.....	.....	.....	.....	
Month	1,349	.....	.....	.....	.....	.....	1,349
COOPER:							
Daily average	3,830	4,122	4,441	4,224	4,495	4,518	
Month	118,743	115,424	133,236	126,720	139,342	135,547	769,012
EAVES:							
Daily average	806	782	910	820	889	939	
Month	24,988	21,905	27,293	24,598	27,556	28,172	154,512
EUNICE:							
Daily average	20,983	22,355	24,953	23,565	24,220	23,968	
Month	650,479	625,930	748,588	706,945	750,827	710,049	4,192,818
GETTY:							
Daily average	115	68	73	14	95	100	
Month	3,567	1,909	2,271	434	2,945	2,992	14,118
HARDY:							
Daily average	2,592	2,658	2,875	2,832	3,590	3,730	
Month	80,361	74,427	86,255	84,973	111,302	111,894	549,212
HOBBS:							
Daily average	13,281	12,994	14,228	13,054	13,575	12,917	
Month	411,724	363,835	426,827	391,623	420,825	387,502	2,402,336
HOGBACK:							
Daily average	197	196	200	196	200	195	
Month	6,094	5,475	6,194	5,889	6,189	5,856	35,697
JAL:							
Daily average	683	780	652	607	736	726	
Month	21,180	21,837	19,567	18,213	22,822	21,776	125,395
LANGLIE:							
Daily average	4,208	4,579	5,040	5,112	5,662	5,754	
Month	130,453	128,212	151,190	153,348	175,530	172,619	911,352
LEONARD:							
Daily average	.....	.....	357	334	346	339	
Month	.....	.....	11,067	10,015	10,732	10,170	41,984
LYNCH:							
Daily average	488	501	564	536	537	539	
Month	15,129	14,018	16,932	16,084	16,647	16,170	94,980
LOCO HILLS:							
Daily average	.....	.....	124	167	163	168	
Month	.....	.....	3,843	4,997	5,053	5,047	18,940
LYNN:							
Daily average	740	736	778	738	816	840	
Month	22,945	20,622	23,350	22,125	25,296	25,200	139,538
MALJAMAR:							
Daily average	.....	.....	966	904	905	912	
Month	.....	.....	29,953	27,129	28,060	27,367	112,509
MATTIX:							
Daily average	3,113	3,382	3,722	3,866	4,374	4,693	
Month	96,499	94,689	111,650	115,981	135,594	140,086	694,499
MONUMENT:							
Daily average	23,421	23,134	24,972	24,093	25,465	25,177	
Month	726,054	647,747	749,146	722,802	789,412	755,310	4,390,471
NORTH LYNCH:							
Daily average	37	40	40	40	39	40	
Month	1,157	1,127	1,193	1,199	1,210	1,192	7,078
PENROSE:							
Daily average	4,912	4,798	5,024	4,622	5,808	5,763	
Month	152,286	134,347	150,723	138,645	180,054	172,887	928,942

(Continued on Next Page)

NEW MEXICO DISCOVERIES FIRST HALF OF 1939

Field, county—	Location	Operator—	Completed	No. wells	Producing formation	Total depth, ft.	Initial production, bbl.
Lovington, Lea	36-16-36	Skelly Oil Co.	January	9	Lime	5,012	110
Loco Hills, Eddy	6-18-30	Martin Yates	February	11	Sand	2,874	420
Lynn Extension, Lea	28-23-36	Continental Oil Co.	May	1	Lime	3,668	450 in 1 hour
Billingslea, Chaves	28-11-30	Nay Hightower	May; still testing	1	Lime	3,445	200, est.; still testing
NW of Vacuum, Lea	30-16-32	Carper & Taylor	June	1	Lime	4,097 P.B. 4,015	15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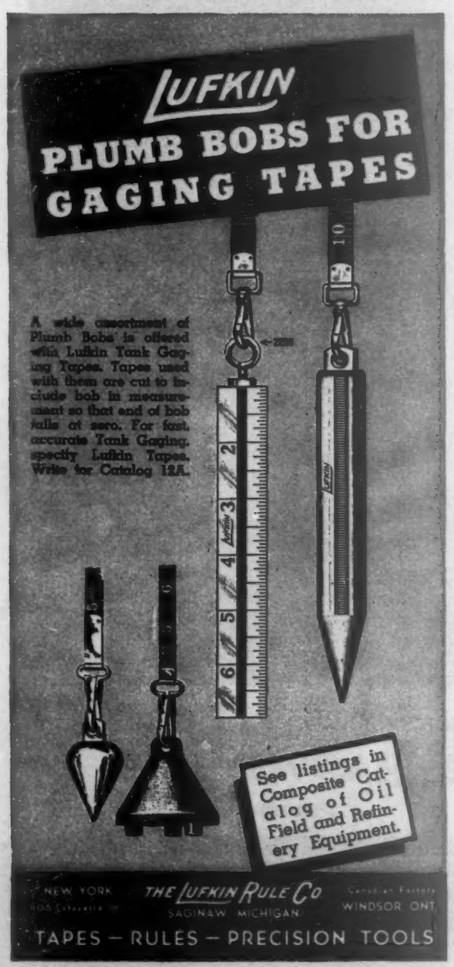
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NEW MEXICO—(Continued)

	January (bbl.)	February (bbl.)	March (bbl.)	April (bbl.)	May (bbl.)	June (bbl.)	Ttl. 6 mos. (bbl.)
RATTLESNAKE:							
Daily average	639	352	581	620	536	551	
Month	19,819	9,858	18,012	18,598	16,621	16,530	99,438
RED LAKES:							
Daily average	.....	.....	187	253	253	257	
Month	.....	.....	5,812	7,582	7,840	7,701	28,935
RHODES:							
Daily average	119	95	132	88	136	129	
Month	3,675	2,662	3,953	2,630	4,218	3,875	21,013
ROBINSON:							
Daily average	.....	.....	378	324	360	345	
Month	.....	.....	11,706	9,732	11,165	10,356	42,959
SHUGART:							
Daily average	.....	.....	214	211	212	216	
Month	.....	.....	6,627	6,322	6,569	6,480	25,998
SKAGGS:							
Daily average	177	87	86	67	81	88	
Month	5,501	2,450	2,588	2,016	2,503	2,636	17,704
SKELLY:							
Daily average	1,442	1,397	1,577	1,463	1,898	1,954	
Month	44,715	39,103	47,316	43,901	58,832	58,612	292,479
SOUTH EUNICE:							
Daily average	2,999	3,117	3,144	3,313	3,962	4,032	
Month	92,615	87,266	94,326	99,398	122,830	120,956	617,391
SOUTH LOVINGTON:							
Daily average	25	148	156	223	227	530	
Month	789	4,143	4,685	6,675	7,037	15,904	39,233
TABLE MESA:							
Daily average	95	69	78	89	76	60	
Month	2,949	1,923	2,404	2,664	2,348	1,794	14,082
VACUUM:							
Daily average	5,590	4,411	5,747	6,013	9,814	10,441	
Month	173,285	123,501	172,422	180,376	304,242	313,226	1,267,052
WEST EUNICE:							
Daily average	103	86	96	100	100	110	
Month	3,183	2,420	2,882	3,010	3,106	3,291	17,892
Daily average	97,879	97,411	104,688	103,918	115,040	115,293	105,799
First 6 months 1939	3,034,244	2,727,517	3,245,319	3,117,539	3,566,243	3,458,791	19,149,653
First 6 months 1938	3,226,339	2,887,254	3,145,000	2,954,202	3,009,427	2,738,019	17,960,241
First 6 months 1937	2,744,129	2,735,529	3,116,093	3,156,154	3,412,581	3,430,106	18,594,592
First 6 months 1936	1,865,049	1,838,608	2,097,447	2,055,198	2,303,441	2,183,776	12,344,519

WYOMING

Daily Average and Monthly Production in First Six Months of 1939

	January (bbl.)	February (bbl.)	March (bbl.)	April (bbl.)	May (bbl.)	June (bbl.)	Ttl. 6 mos. (bbl.)
SALT CREEK:							
Daily average	14,998	14,370	17,386	14,128	15,656	14,990	
Month	464,940	402,348	538,981	423,871	485,351	449,692	2,765,183
BADGER BASIN:							
Daily average	175	146	135	145	130	147	
Month	5,425	4,080	4,185	4,350	4,030	4,400	26,470
BIG MUDDY:							
Daily average	1,264	1,174	1,212	1,190	1,192	1,192	
Month	39,194	32,872	37,550	35,707	36,923	35,770	218,016
BYRON:							
Daily average	.....	.....	2,301	12	2,112	2,765	
Month	.....	.....	71,356	374	65,474	82,958	220,162
DALLAS DERBY:							
Daily average	349	506	526	448	247	280	
Month	10,831	14,177	16,294	13,439	7,661	8,392	70,794
FRANNIE:							
Daily average	385	1,059	920	1,345	1,220	1,185	
Month	11,936	29,666	28,522	40,361	37,820	35,566	183,871
GARLAND:							
Daily average	1,889	1,759	1,442	2,488	2,405	2,611	
Month	58,562	49,255	44,708	74,626	76,421	78,337	381,909
GRASS CREEK:							
Daily average	1,754	1,844	1,880	2,915	2,796	2,940	
Month	54,383	51,618	58,278	87,458	86,683	88,212	426,632
HAMILTON DOME:							
Daily average	.....	.....	.....	1,428	1,498	2,075	
Month	.....	.....	.....	42,845	46,444	62,246	151,535
HUDSON:							
Daily average	230	206	230	238	241	246	
Month	7,117	5,779	7,128	7,135	7,464	7,387	42,010
LA BARGE:							
Daily average	850	840	894	894	875	905	
Month	26,354	23,533	27,709	26,832	27,127	27,146	158,701
LANCE CREEK:							
Daily average	12,207	13,990	14,259	16,186	16,040	16,510	
Month	378,411	391,747	442,032	485,576	497,253	495,300	2,690,319
LOST SOLDIER:							
Daily average	1,935	1,803	1,896	2,041	1,843	1,771	
Month	60,000	50,477	58,776	61,225	57,124	53,136	340,738
MAHONEY DOME:							
Daily average	275	151	266	277	367	339	
Month	8,533	4,216	8,238	8,318	11,366	10,174	50,845
MEDICINE BOW:							
Daily average	2,222	2,198	2,055	2,026	1,756	1,761	
Month	68,873	61,531	63,737	60,793	54,450	52,836	362,220
OREGON BASIN:							
Daily average	1,888	1,248	2,273	2,638	2,330	2,327	
Month	58,531	34,930	70,490	79,133	72,245	69,821	385,150
OSAGE:							
Daily average	750	700	800	750	800	805	
Month	23,250	19,600	24,800	22,500	24,800	24,141	139,091
QUEALY DOME:							
Daily average	757	705	630	631	652	641	
Month	23,464	19,739	19,530	18,916	20,214	19,230	121,093
ROCK CREEK:							
Daily average	2,357	2,916	2,932	2,963	2,943	2,947	
Month	73,054	81,636	90,911	88,903	91,219	88,420	514,143
POISON SPIDER:							
Daily average	263	260	200	223	79	78	
Month	8,150	7,279	6,185	6,682	2,442	2,329	33,067
WERTZ:							
Daily average	1,290	1,583	1,520	1,627	1,574	1,572	
Month	39,994	44,329	47,115	48,799	48,792	47,157	276,186
ELK BASIN:							
Daily average	555	560	588	572	585	546	
Month	17,219	15,694	18,213	17,167	18,134	16,376	102,803
MISCELLANEOUS POOLS:							
Daily average	717	520	488	586	496	498	
Month	22,225	14,571	15,142	17,565	15,375	14,949	99,827
Daily average	47,111	48,538	54,835	55,753	57,897	59,133	53,927
First 6 months 1939	1,460,446	1,359,077	1,699,880	1,672,575	1,794,812	1,773,975	9,760,765
First 6 months 1938	1,507,003	1,303,197	1,470,861	1,541,085	1,572,215	1,629,946	9,024,307
First 6 months 1937	1,512,926	1,520,217	1,760,362	1,712,305	1,718,343	1,608,141	9,832,294
First 6 months 1936	1,062,556	972,486	1,153,448	1,081,830	1,124,370	1,059,420	6,454,110
First 6 months 1935	1,028,439	936,981	1,019,743	1,118,852	1,084,698	1,160,513	6,349,226

Miscellaneous fields and their production for the 6 months are: Cole Creek, 10,128 bbl.; Cody Dome, 10,186 bbl.; Dewey Dome, 2,024 bbl.; Dutton Creek, 9,374 bbl.; Hidden Dome, 13,582 bbl.; Mule Creek, 24,400 bbl.; Midway, 4,576 bbl.; Rex Lake, 934 bbl.; South Casper Creek, none reported; Spindletop, 2,440 bbl.; Teapot, (outside), 3,362 bbl.; Warm Springs, 15,855 bbl.; Pilot Butte, 560 bbl.; Iron Creek, 2,406 bbl. Total, 99,827 bbl.

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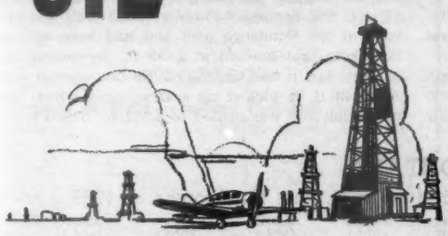

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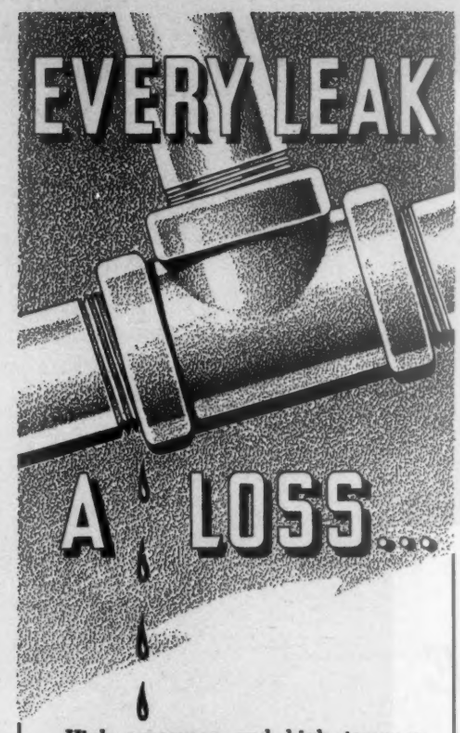

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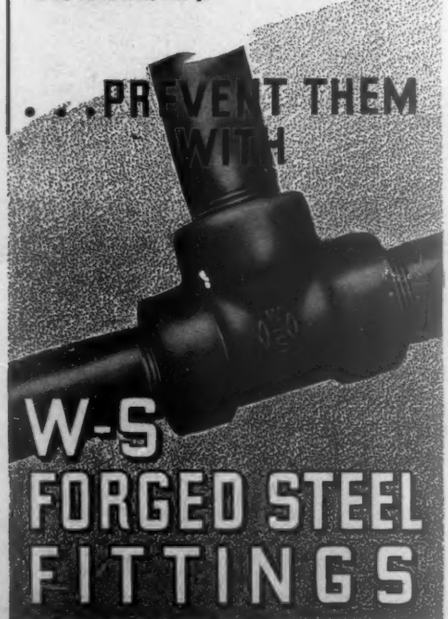

3,430 ft. and acidized with 1,000 gal. It flowed at the rate of 12 bbl. an hour of 31-gravity oil after acidizing through casing perforations at around 3,414 ft., in the Permian lime. It was estimated at 40 bbl. a day with some water. Two additional wells were drilling in the district at the end of June.

The principal drilling activity for the 6 months was in Lea County with the Vacuum area taking the lead. As of July 1 the Conservation Commission reported 2,229 units (40 acres) on production, which compares with 1,997 on January 1, 1939, a net increase of 232 units, and an increase of 9,280 acres in productive area. The 20 pools in the county had a total of 89,160 acres on production as compared with 79,880 at the beginning of the year.

WYOMING

Wyoming completions dropped from 77 in the first half of last year to 46 in the same period of this year, the decrease being accounted for largely by the smaller number of wildcats drilled. There were no new oil fields discovered. The principal development was in the Lance Creek field where the proven area was extended in both the Sundance and Leo sands, and a stray sand below the Leo was found productive in two wells. The limit of the Big Medicine Bow field in Carbon County on the northwest was defined in one well, and a wildcat a mile north of the discovery on Cole Creek failed to add any new territory to that pool. Four wildcats drilled on separate structures to the east, north and southeast of Lance Creek developed nothing of importance.

Fifteen oil wells were completed in Lance Creek, mostly around the rim of the proven area to determine the extent of the productive sands. Approximately 320 acres were added to the Sundance pool and 560 acres to the Leo sand pool.

Minnelusa Oil Corp. in April completed the largest producer in Lance Creek, No. 3 H. & M.-5, NW NE SE Section 7. It was drilled to 5,548 ft. with the top of the Leo pay at 5,490 ft. It made 480 bbl. in 1 hour through the casing with a back pressure of 440 lb., and indications pointed to a 10,000- to 12,000-bbl. well. After cleaning up and testing through the tubing, it made 4,217 bbl. first 24 hours. The result indicated that the axis of the Leo sand swings out to the southwest and that the productive area may extend for some distance. Rotary table elevation is 4,490 ft.

WYOMING

Summary of Wells Completed First Half of 1939

County—	Comp.	Prod.	Dry	Gas
Big Horn	2	3,000	1	0
Carbon	3	110	1	0
Converse	3	0	3	0
Fremont	2	15	1	0
Lincoln	1	0	1	0
Natrona	1	0	1	0
Niobrara	19	24,504	2	0
Park	3	722	1	0
Washakie	1	0	1	0
Sublette	1	50	0	0
Sweetwater	3	278	0	0
Weston	7	24	4	0
Total	46	28,703	16	0

Completions by Months

Month—	Comp.	Prod.	Dry	Gas
January	12	209	6	0
February	9	5,756	3	0
March	5	2,265	1	0
April	5	11,860	3	0
May	11	7,211	3	0
June	4	1,402	0	0
Total	46	28,703	16	0
Same period 1939	77	23,759	19	12
Difference	31	4,944	3	12

A new productive horizon was found on the west side in May in the Minnelusa Oil Corp. No. 2 Joss, SE NE SW Section 6-35n-65w. This well was on the edge of the Sundance pool and had been on production from that horizon at 3,989 ft. Deepening started in April and it had the top of the Leo zone at 5,154 ft. At 5,340 ft. it picked up a stray sand which showed saturation and was drilled to 5,352 ft. The 4¾-in. was

MONTANA

Daily Average and Monthly Production in First Six Months of 1939

	January (bbl.)	February (bbl.)	March (bbl.)	April (bbl.)	May (bbl.)	June (bbl.)	Ttl. 6 mos. (bbl.)
BORDER:							
Daily average	188	115	60	114	94	108	
Month	5,817	3,223	1,859	3,429	2,923	3,249	20,500
CAT CREEK:							
Daily average	577	541	561	553	563	561	
Month	17,882	15,147	17,380	16,605	17,468	16,834	101,316
CUT BANK:							
Daily average	8,231	8,277	8,583	8,791	9,507	8,805	
Month	255,162	231,758	266,088	263,744	294,719	264,155	1,575,626
DRY CREEK:							
Daily average	908	871	489	1,143	1,015	1,142	
Month	28,148	24,389	15,167	34,290	31,477	34,251	167,722
KEVIN-SUNBURST:							
Daily average	3,510	3,704	3,711	4,392	4,168	4,387	
Month	108,833	103,692	115,042	131,733	129,218	131,600	720,118
PONDERA:							
Daily average	475	447	583	827	918	921	
Month	14,726	12,529	18,083	24,805	28,455	27,630	126,228
Daily average	13,889	13,955	13,988	15,820	16,266	15,924	14,981
First 6 months 1939	430,568	390,738	433,619	474,606	504,260	477,719	2,711,510
First 6 months 1938	368,053	359,579	399,519	441,399	417,352	438,698	2,424,600
First 6 months 1937	413,728	413,356	484,552	548,209	560,824	540,559	2,961,228
First 6 months 1936	369,148	295,191	482,391	488,100	532,053	516,660	2,683,543
First 6 months 1935	348,101	302,697	321,665	323,965	325,205	312,071	1,933,704

COLORADO

Daily Average and Monthly Production in First Six Months of 1939

	January (bbl.)	February (bbl.)	March (bbl.)	April (bbl.)	May (bbl.)	June (bbl.)	Ttl. 6 mos. (bbl.)
FLORENCE AND CANON CITY:							
Daily average	153	139	212	163	150	199	
Month	4,733	3,887	6,561	4,889	4,649	5,972	30,691
FORT COLLINS:							
Daily average	101	116	105	92	108	106	
Month	3,129	3,251	3,252	2,768	3,360	3,184	18,944
ILES DOME:							
Daily average	2,241	2,066	2,080	2,029	2,035	2,059	
Month	69,480	57,838	64,473	60,874	63,079	61,777	377,521
MOFFAT:							
Daily average	296	255	294	280	305	282	
Month	9,178	7,137	9,124	8,401	9,461	8,458	51,759
ORCHARD:							
Daily average	34	.....	35	25	20	12	
Month	1,045	.....	1,096	744	620	360	3,865
PRICE:							
Daily average	467	326	285	449	693	695	
Month	14,446	9,138	8,820	13,476	21,460	20,861	88,201
RANGELY:							
Daily average	.....	.....	67	35	26	30	
Month	.....	.....	2,069	1,039	804	892	4,804
TOW CREEK:							
Daily average	122	128	158	131	157	141	
Month	3,797	3,592	4,890	3,928	4,872	4,236	25,315
WELLINGTON:							
Daily average	222	179	196	198	204	214	
Month	6,892	5,010	6,095	5,947	6,339	6,419	36,702
WILSON CREEK:							
Daily average	345	306	240	306	319	319	
Month	10,685	8,568	7,445	9,193	9,870	9,570	55,331
Daily average	3,980	3,515	3,672	3,709	4,017	4,058	3,829
First 6 months 1939	123,385	98,421	113,825	111,259	124,514	121,729	693,133
First 6 months 1938	129,758	105,065	100,193	112,971	114,757	107,281	670,025
First 6 months 1937	103,705	115,079	138,643	131,611	135,891	136,658	761,587
First 6 months 1936	102,827	111,012	131,502	154,860	149,978	143,760	793,939

cemented at 5,149 ft. and the well was completed for 30 bbl. an hour. The sand, which has been named the Joss, had some production in an offset, but does not show up on the east side of the field. Its importance remains to be determined.

The Ohio Oil Co.-California Co. No. 7 Union Pacific-Johnson, CSL NE SW Section 23-21n-79w, Carbon County, defined the productive area of the Big Medicine Bow structure on the northwest when it tested all sands down to and including the Sundance to 5,836 ft. where it was plugged and abandoned. It narrowed the productive area for the field down to a little less than 2 miles in length and ½ mile in width.

COLORADO

Drilling operations in Colorado were at an unusually low ebb and there were no discoveries or extensions of producing fields. Only 11 wells were completed, and of these eight were dry holes and one was a gas well. Exploration was handicapped by the uncertainties of the oil lease situation on government land. Two major wildcats were drilled east of the mountains. The Plymouth Oil Co. drilled into the Permian beds in a test in El Paso County in its No. 1 Brosky-Union Pacific, C SW SW Section 19-10s-60w, in January, and abandoned the hole at 7,578 ft. when it was unable to recover parted drill pipe. It had the top of the Permian at 7,309 ft. Surface elevation, 6,260 ft. The other wildcat was the Continental Oil Co. No. 1 Ruby, C NE NW Section 31-21s-44w, on the Cottonwood structure, in Prowers County. Lowest horizon tested was the Siliceous lime, topped at 5,580 ft., with a hole full of water at 5,680 ft., where it was plugged and abandoned. The MacKinnie Oil & Drilling Co. and the Morapas Petroleum Corp. tested the Sundance sand in the faulted area between the Thornburg and Iles fields in Moffat County without results.

COLORADO

Summary of Wells Completed First Half of 1939

County—	Comp.	Prod.	Dry	Gas
Adams	1	0	1	0
Elbert	1	0	1	0
Fremont	3	30	2	0
Moffat	4	360	2	1
Prowers	1	0	1	0
Routt	1	0	1	0
Total	11	390	8	1

Completions by Months

Month—	Comp.	Prod.	Dry	Gas
January	4	360	3	0
February	2	0	2	0
March	2	0	1	1
April	0	0	0	0
May	3	30	2	0
June	0	0	0	0
Total	11	390	8	1
Same period 1938	7	510	4	1
Difference	4	120	4	0

MONTANA

There were no oil pools discovered in Montana during the first 6 months of 1939. The most interesting developments took place in the Cut Bank and North Cut Bank fields in Glacier County, where there were some extensions of both the proven oil and gas areas; the completion of a good well in the Sunburst sand, which heretofore has not been attractive; and the bringing in of another producer in both the Sunburst and Cut Bank sands. Kevin-Sunburst had no important extensions, but showed up with a dry hole that was turned into a flowing well. The productive area of the Bow and Arrow gas field was determined in one well which was abandoned, and the Whitlash gas field in Liberty County, was extended slightly. Few wildcats of importance were drilled to completion.

Results in North Cut Bank were discouraging until May when Chandler & Newell No. 1 Hinstrager, C NE NW Section 24-37-5, was completed at 2,603 ft. for 43,000,000 cu. ft. open flow of wet gas in the Moulton sand at 2,550-97 ft., the largest gas well in Montana. This well is 1¼ miles east of P. T. Sweeney No. 1 Jacobson, the oil discovery, completed in July 1933, and 1¾ miles northwest of Cobb No. 1 State, the gas discovery in the Moulton sand. Exploration work then shifted to the north of the line between the Jacobson-State wells, where several operations are now under way. Only one well was drilled thereafter to the south, Nadeau Brothers No. 2 Government, C SW NW Section 24-37-5, a little more than half a mile to the southwest of No. 1 Hinstrager. It had 2,000,000 to 4,000,000 cu. ft. of gas in the Moulton sand at 2,560-2,604 ft. and went on to the Sunburst where it had some saturation at 2,682-85 ft. and swabbed 90 bbl. first 48 hours.

The above operations were around 10 miles to the north of the Cut Bank field proper. In the Cut Bank field the principal development was in the Glacier Production Co. No. 1 Larson, CEL NE NW Section 35-36n-6w, which was completed in June at 3,118 ft., total depth, where it swabbed 165 bbl. first 24 hours. Most of the production of this well is coming from the Sunburst sand at 3,022-28 ft., at which depth it swabbed 150 bbl. in 12 hours. The Cut Bank showed some saturation at 3,096-98 ft. A perforated liner was run and the well is producing from the Sunburst sand, the first well of its kind in the field. It is three-fourths of a mile north of the same company's No. 1 Hall, the nearest producer, which was completed in the Cut Bank after finding the Sunburst dry. The other interesting well was the Glacier Production Co. No. 3 Corrigeau, C SE SW Section 21-33n-5w, which swabbed 516 bbl. first 24 hours and was making 16½ bbl. an hour at the end of the period from the Cut Bank sand. It is producing from both the Sunburst and Cut Bank sands, the only well in the field producing from two horizons. The Sunburst zone was at 2,894-2,976 ft., and at 2,894-2,930 ft. it flowed and swabbed 8½ bbl. an hour.

MONTANA

Summary of Wells Completed First Half of 1939

County—	Comp.	Prod.	Dry	Gas
Carbon	2	0	2	0
Cascade	1	0	1	0
Glacier	37	3,698	4	5
Liberty	1	0	0	1
Teton	2	0	2	0
Toole	33	1,446	6	1
Yellowstone	1	0	1	0
Total	77	5,144	16	7

Completions by Months

Month—	Comp.	Prod.	Dry	Gas
January	13	305	4	1
February	7	725	1	0
March	10	413	0	3
April	16	1,314	4	1
May	8	509	0	1
June	23	1,878	7	1
Total	77	5,144	16	7
Same period 1938	41	1,688	12	4
Difference	36	3,456	4	3

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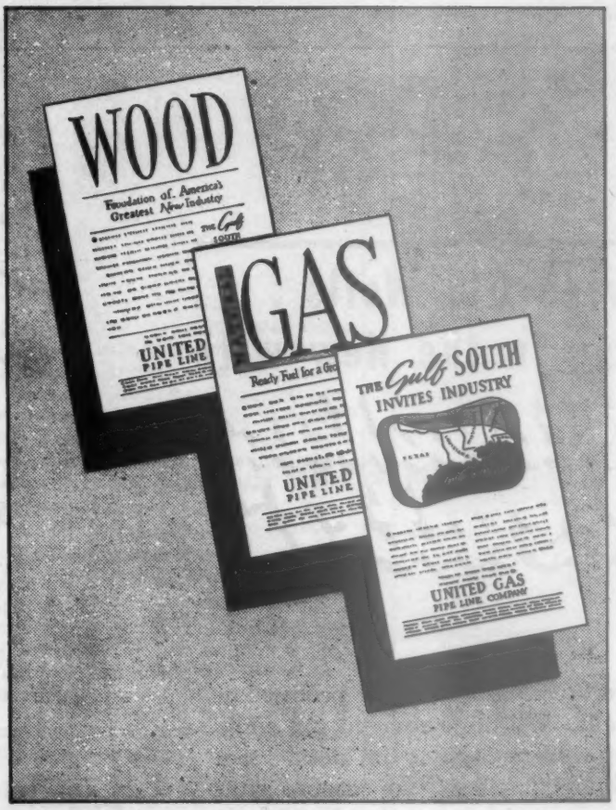

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Semi-Annual Review

FEW DISCOVERIES IN TEX-LA-ARK AREA BUT 1938 CROP PROVED RICH

By GEORGE WEBER

The first half of 1939 brought no new oil field discoveries of note in the tri-state area of North Louisiana Arkansas and East Texas border counties, but development of 1938 discoveries disclosed one field of major size and added to reserves in other new fields in the district. Drilling activity declined during the period, due principally to completed campaigns in some of the major fields.

Arkansas

The outstanding development in South Arkansas was the extension of the Magnolia field in Columbia County. At the close of the 6-month period, the field is the most active drilling spot in the state, and production has been defined only on the north.

The size of the field was indicated at the first of the year, after several wells drilled south of the discovery well encountered a steep dip in the Smackover lime producing formation, and a thickness of 110 ft. of gas cap and 189 ft. of oil saturation above the water level. These potentialities spurred drilling, and by the close of June, 35 wells were producing, and 14 rigs were active in drilling to the 7,500-ft. pay.

Continuous extensions on the south, east and west have augmented the present proven field to over 3,500 acres. Notable in the success of outpost wells was that of G. H. Vaughn, whose No. 1 Jones was drilled over a mile from nearest production on the west side of the field. In mid-June, the well was brought in, with porous lime topped at about the gas-oil-contact level, giving the well nearly full oil saturated lime thickness, and greatly adding to the size of the field. The unusual thickness of the section, the active water drive and orderliness of development will result in an estimated recovery of at least 150,000,000 bbl. of crude, based on the present proven acreage.

Arkansas—One New Pool

South Arkansas gained one oil field during the first half of the year, named Lewisville, in Lafayette County. At the present stage of development, with two producers and four abandonments, the field shows indications of only minor importance.

The discovery well was Erwin & Leach No. 1 Patton, C S½ NW NE Section 24-16-24, near a deep test to the Smackover lime, drilled several weeks previously. The test was carried to a total depth 3,606 ft., plugged back to 3,480 ft. where 5½-in. casing was set at 3,393 ft., and was completed flowing 100 bbl. of 38-gravity oil in 15 hours through a 1-in. choke. Following the discovery late in April, other locations and drilling operations were begun, but only one has been successful in bringing an extension to the field.

The Schuler field, South Arkansas' most active drilling area until this year, saw continuous drilling, but little undrilled acreage remains and activity has shown a gradual decline during the year. A proposed pressure maintenance project for the Jones sand, most important producing horizon in the field, is expected to begin during the summer.

Smackover Lime Tests

The trend in new Smackover lime discoveries, begun 2 years ago in South Arkansas, was interrupted this year by several failures in the deep formation. An active geophysical campaign brought to light over 35 structures in the lime, extending from Miller County on the west through Nevada, Columbia, Ouachita, Union, Calahoun and Bradley to Ashley County on the east.

Guided by these prospects, four deep wildcats were drilled during the first half of the year, without success in discovering reserves to match Schuler, Magnolia, Village, Buckner or Atlanta. On the west, in Lafayette County, Shell Oil Co., Inc., and Ohio Oil Co. drilled No. 1 Warren, in the Stamps district, to 7,420 ft. Porous lime was topped at 7,173 ft. showing oil saturation in the top of the section. Permeability of the lime was so low that commercial oil production was impossible, and the wildcat was abandoned.

Similar conditions prevented success in the Deep Rock Oil Corp. No. 1 C. Wesson, drilled in the Stephens field of Ouachita County, where porous lime was cored at 5,934 ft., and the hole was carried to a total depth of 6,053 ft.

A prospect located northwest of Magnolia in Columbia County was tested by the Phillips Petroleum Co. in Askew Unit No. 1 which cored hard dense lime at 8,490-93 ft. and was abandoned at 8,510 ft.

In Union County the Oliphant Oil Co. drilled No. 1 Union Sawmill Co. to 7,950 ft., encountering hard dense lime in the Smackover section. This test was located in the Junction City district.

Currently drilling at the close of June, the Atlantic Refining Co. No. 1 Pine Woods Lumber Co., a Smackover lime wildcat located near Experiment in Columbia County, is the fifth deep wildcat to explore the lime this year.

The Atlanta field of Columbia County, discovered by the Tide Water Associated Oil Co. late last year, added another producer and the possibility of a second producing horizon is seen in a 7,300-ft. sand of the Cotton Valley formation, which showed oil and good recovery possibilities, although it was not tested. The producing section of the Atlanta field is Smackover lime.

North Louisiana

Drilling activity during the first 6 months was centered mainly in the Shreveport or Cross Lake field of Caddo Parish. At the beginning of the year, Harry Hanbury No. 1 Lowe was completed, extending proven production 1¼ miles to the northeast. Shortly after, W. C. Feazel completed No. 1 Hughes, extending production 1 mile to the southwest. With this new proven acreage opened, drilling activity rose to a peak of 16 rigs in late April, after which it declined to comparative quiet at the end of June. Thirty-two wells were completed in the 6-month period, and three tests, on the east and west, were abandoned with shows of salt water. Considerable acreage remains to be drilled in the field, and the section on the south within city limits of Shreveport shows the best production possibilities.

In the Caddo district of Caddo Parish, a discovery in the comparatively shallow Woodbine sand at 2,400 ft. in December brought a flurry of drilling during the first half of this year. The Colonial Corp. No. 1 Thigpen & Herold, located in Section 34-22-16, was completed as a commercial producer in early January after setting tubing. The discovery well of the Vivian pool gaged 468 bbl. daily through 2-in. tubing, the oil showing an average of 43.7 gravity.

The shallow depth of production attracted operators, and by mid-February 19 locations had been staked.

ARKANSAS

Daily Average and Monthly Production in First Six Months of 1939

	January (bbl.)	February (bbl.)	March (bbl.)	April (bbl.)	May (bbl.)	June (bbl.)	Ttl. 6 mos. (bbl.)
ATLANTA:							
Daily average	95	21	11	240	335	407	
Month	2,945	588	341	7,200	10,385	12,210	33,669
BUCKNER:							
Daily average	1,385	1,455	1,542	1,659	1,709	1,876	
Month	42,935	40,740	47,802	49,770	52,979	56,280	290,506
CHAMPAGNOLLE:							
Daily average	1,727	1,856	1,724	1,812	1,404	1,306	
Month	53,537	51,968	53,444	54,360	43,524	39,180	296,013
EL DORADO:							
Daily average	1,746	1,709	1,713	1,710	1,692	1,691	
Month	54,126	47,852	53,103	51,300	52,452	50,730	309,563
LEWISVILLE:							
Daily average	.....	.....	.....	.....	65	113	
Month	.....	.....	.....	.....	2,015	3,390	5,405
LISBON:							
Daily average	252	248	256	241	255	254	
Month	7,812	6,944	7,936	7,230	7,905	7,620	45,447
MAGNOLIA:							
Daily average	1,695	2,833	3,206	3,915	6,429	8,547	
Month	52,545	79,324	99,386	117,450	199,299	256,410	804,414
MILLER COUNTY (Miscellaneous):							
Daily average	340	346	349	345	336	301	
Month	10,540	9,688	10,819	10,350	10,416	9,030	60,843
NEVADA:							
Daily average	597	604	611	592	615	622	
Month	18,507	16,912	18,941	17,760	19,065	18,660	109,845
RODESSA:							
Daily average	5,054	5,203	5,215	5,085	4,237	4,139	
Month	156,674	145,684	161,665	152,550	131,347	124,170	872,090
SCHULER:							
Daily average	18,107	18,753	18,788	18,192	18,015	18,016	
Month	561,317	525,084	582,428	545,760	558,465	540,480	3,313,534
SMACKOVER (light oil):							
Daily average	1,968	1,896	1,892	1,891	1,916	1,930	
Month	61,008	53,088	58,652	56,730	59,396	57,900	346,774
SMACKOVER (heavy oil):							
Daily average	15,312	15,149	14,810	14,964	14,744	14,731	
Month	474,672	424,172	459,110	448,920	457,064	441,930	2,705,868
STEPHENS:							
Daily average	515	510	516	574	555	553	
Month	15,965	14,280	15,996	17,220	17,205	16,590	97,256
TROY:							
Daily average	993	972	1,060	961	957	946	
Month	30,783	27,216	32,860	28,830	29,667	28,380	177,736
URBANA:							
Daily average	1,098	1,117	1,165	1,172	1,070	1,069	
Month	34,038	31,276	36,115	35,160	33,170	32,070	201,829
VILLAGE:							
Daily average	516	511	594	676	571	819	
Month	15,996	14,308	18,414	20,280	17,701	24,570	111,269
Daily average	51,400	53,183	53,452	54,029	54,905	57,320	54,045
First 6 months 1939	1,593,400	1,489,124	1,657,012	1,620,870	1,702,055	1,719,600	9,782,061
First 6 months 1938	1,293,475	1,315,300	1,580,225	1,620,990	1,317,500	1,380,600	8,508,090
First 6 months 1937	803,117	758,660	843,851	824,220	850,175	850,230	4,930,253
First 6 months 1936	935,115	858,313	925,815	895,830	928,419	894,930	5,439,422
First 6 months 1935	974,175	861,588	950,336	917,520	907,262	933,810	5,604,691

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Drilling continued throughout the 6 months period, although failures have caused a slackening in the play. A total of 16 oil wells and 21 dry holes or abandonments were made this year in Vivian.

Cotton Valley

The Bodcaw oil zone of the lower Marine formation at Cotton Valley was extended considerably the first half of the year. Discovered on the southeast edge of the field in 1938, the oil zone was proven on the northwest and south edges by the first of 1939. Continued deep flank drilling, however, brought in new oil production on the north, 1 mile northeast of the first northwest edge oiler. This new well, Magnolia Petroleum Co. No. 1 Cox, gaged 378 bbl. daily through a $\frac{1}{4}$-in. choke. The same operators later completed No. 1 Clyle-Hodges unit on the northwest flank, making 812 bbl. daily. On the southeast flank of the anticlinal structure, Midstates Oil Corp. brought in No. 1 Giddens, an outpost located ½ mile from discovery in the oil zone, the new wells making 500 bbl. of oil daily. Three other Bodcaw oilers were completed during the 6 months.

The D sand of the same formation is producing in three new wells on the south edge of the field as a result of drilling in the section during 1939. New Bodcaw distillate wells during the first half of the year numbered eight, and the Holloway sand, a lower Travis Peak section, made producers in seven wells. In the center of structure the Roy Fisher and others No. 1 S. P. D. Coyle made a distillate and gas producer in the Holloway sand, the first to be completed in the field. This proves the indication of previous gas shows in the Holloway of a gas cap at the top of structure.

NORTH LOUISIANA

Summary of Wells Completed First Half of 1939

Parish—	Comp.	Prod.	Dry	Gas
Bienville	5	0	1	4
Bossier	6	10	4	1
Caddo-Rodessa	7	925	0	1
Caddo-other	146	20,560	49	4
Caldwell	1	0	1	0
Catahoula	1	0	1	0
Claiborne	5	50	1	0
Concordia	1	0	1	0
De Soto	4	20	2	0
Grant	3	115	1	0
La Salle	9	155	4	0
Madison	1	0	1	0
Morehouse	2	0	0	2
Ouachita	4	0	0	4
Red River	3	25	0	0
Sabine	30	1,105	17	0
Union	8	0	1	7
Webster	29	17,330	2	12
Total first half 1939	265	40,295	86	35

Completions by Months

Month—	Comp.	Prod.	Dry	Gas
January	44	5,890	18	8
February	30	4,665	7	3
March	41	9,400	15	5
April	57	10,175	12	6
May	57	6,985	20	8
June	36	3,180	14	5
Total	265	40,295	86	35
Total first half 1938	309	120,360	56	44
Difference	44	80,065	30	9

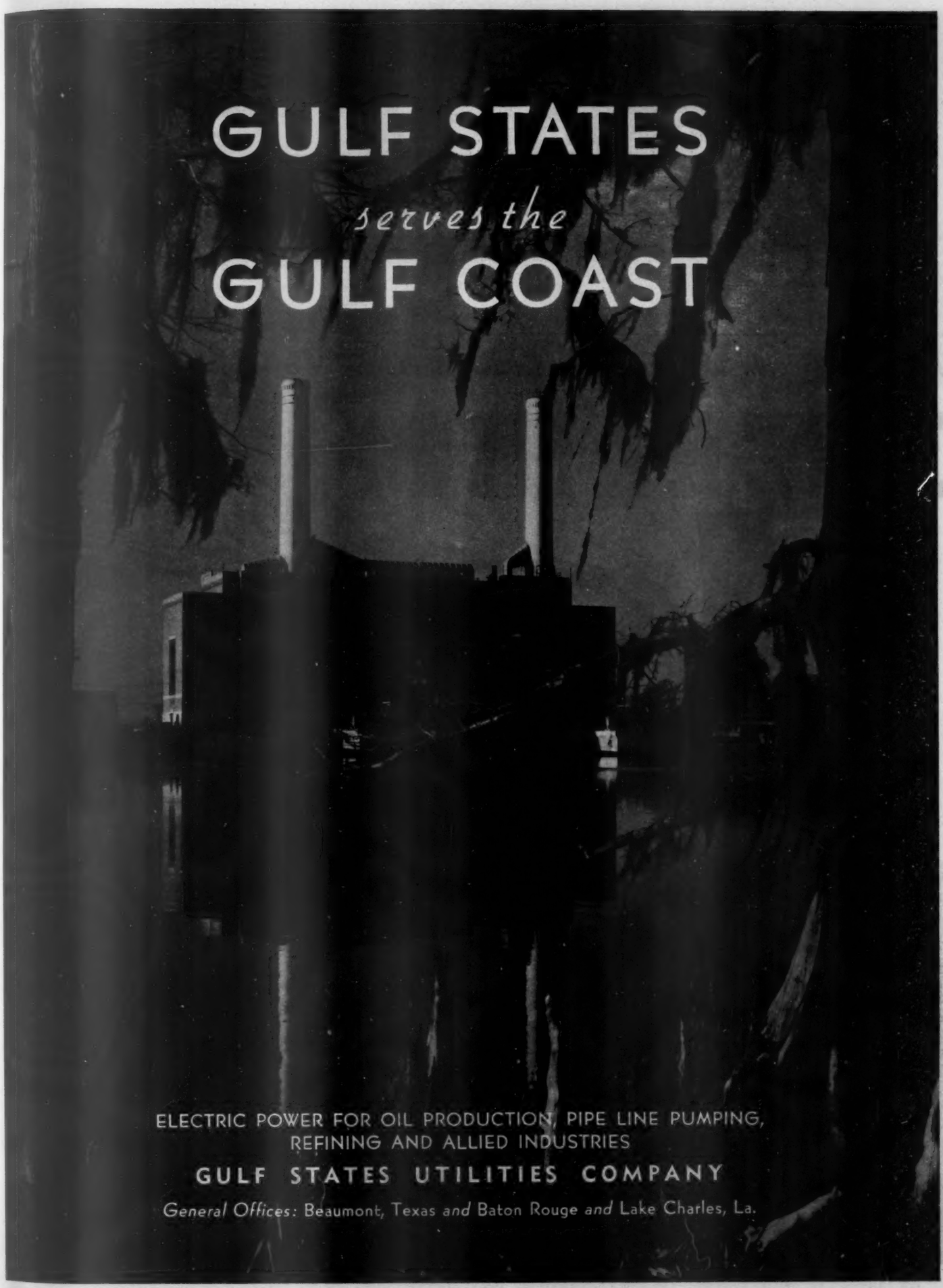
Gas production: Bienville 175,750,000 cu. ft., Bossier 25,000,000 cu. ft., Caddo-Rodessa 2,000,000 cu. ft., Caddo other 21,000,000 cu. ft., Morehouse 5,000,000 cu. ft., Ouachita 7,000,000 cu. ft., Union 154,000,000 cu. ft., Webster 43,496,000 cu. ft.

A pressure-maintenance and recycling project incorporating all Bodcaw wells is under consideration in the field, and it is expected that the plan will be undertaken sometime during 1939. This will halt much of

NORTH LOUISIANA

Daily Average and Monthly Production in First Six Months of 1939

	January (bbl.)	February (bbl.)	March (bbl.)	April (bbl.)	May (bbl.)	June (bbl.)	Ttl. 6 mos. (bbl.)
BELLEVUE:							
Daily average	675	667	692	719	675	601	
Month	20,925	18,676	21,452	21,570	20,925	18,030	121,578
CADDO (Light):							
Daily average	4,064	4,127	4,124	4,269	4,626	4,412	
Month	125,984	115,556	127,844	128,070	143,406	132,360	773,220
CADDO (Heavy):							
Daily average	2,646	2,589	2,504	2,481	2,429	2,375	
Month	82,026	72,492	77,624	74,430	75,299	71,250	453,121
CONVERSE:							
Daily average	512	498	455	532	541	534	
Month	15,872	13,944	14,105	15,960	16,771	16,020	92,672
COTTON VALLEY (Heavy):							
Daily average	75	101	92	95	65	68	
Month	2,325	2,828	2,852	2,850	2,015	2,040	14,910
COTTON VALLEY (Light):							
Daily average	5,167	4,943	5,043	5,288	3,776	4,778	
Month	160,177	138,404	156,333	158,640	117,056	143,340	873,950
COTTON VALLEY (Distillate):							
Daily average	4,680	4,507	4,958	4,656	3,885	4,394	
Month	145,080	126,196	153,698	139,680	120,435	131,820	816,909
COTTON VALLEY (Lower Marine):							
Daily average	1,816	2,334	2,972	3,383	3,739	3,810	
Month	56,296	65,352	92,132	101,490	115,909	114,300	545,479
CROSS LAKE (Shreveport):							
Daily average	2,572	3,269	4,261	6,212	7,070	7,602	
Month	79,732	91,532	132,091	186,360	219,170	228,060	936,945
DE SOTO AND RED RIVER:							
Daily average	1,198	1,154	1,139	1,137	1,122	1,131	
Month	37,138	32,312	35,309	34,110	34,782	33,930	207,581
ELM GROVE:							
Daily average	265	220	252	277	256	248	
Month	8,215	6,160	7,812	8,310	7,936	7,440	45,873
HAYNESVILLE:							
Daily average	2,829	2,982	2,890	2,935	2,986	2,837	
Month	87,699	83,496	89,590	88,050	92,566	85,110	526,511
HOLLY:							
Daily average	81	80	72	72	91	84	
Month	2,511	2,240	2,232	2,160	2,821	2,520	14,484
HOMER:							
Daily average	2,658	2,667	2,675	2,683	2,775	2,763	
Month	82,398	74,676	82,925	80,490	86,025	82,890	489,404
LISBON:							
Daily average	7,378	6,655	4,330	4,696	3,285	3,008	
Month	228,718	186,340	134,230	140,880	101,835	90,240	882,243
PLEASANT HILL:							
Daily average	90	106	104	91	95	98	
Month	2,790	2,968	3,224	2,730	2,945	2,940	17,597
RODESSA:							
Daily average	28,717	28,023	28,752	28,694	27,265	27,029	
Month	890,227	784,644	891,312	860,820	845,215	810,870	5,083,088
SAREPTA-CARTERVILLE:							
Daily average	348	271	278	295	238	276	
Month	10,788	7,588	8,618	8,850	7,378	8,280	51,502
SHONGALOO DISTRICT:							
Daily average	82	149	142	211	227	194	
Month	2,542	4,172	4,402	6,330	7,037	5,820	30,303
SLIGO:							
Daily average	1,212	1,242	1,243	1,253	1,275	1,093	
Month	37,572	34,776	38,533	37,590	39,525	32,790	220,796
SUGAR CREEK:							
Daily average	357	355	340	336	336	265	
Month	11,067	9,940	10,540	10,080	10,416	7,950	59,993
URANIA:							
Daily average	2,633	2,679	2,769	2,625	2,737	2,791	
Month	81,623	75,012	85,839	78,750	84,847	83,730	489,801
ZWOLLE:							
Daily average	2,620	2,795	2,970	2,877	2,800	2,805	
Month	81,220	78,260	92,070	86,310	86,800	84,150	508,810
Daily average	72,675	72,413	73,057	75,817	72,294	73,196	73,242
First 6 months 1939	2,252,925	2,027,564	2,264,767	2,274,510	2,241,114	2,195,880	13,256,760
First 6 months 1938	2,474,017	2,199,008	2,426,215	2,374,830	2,473,645	2,381,070	14,328,785
First 6 months 1937	2,450,860	1,963,220	2,157,259	2,169,090	2,397,664	2,489,310	13,627,403
First 6 months 1936	1,586,554	1,757,603	1,961,959	1,902,420	2,565,219	2,316,510	12,070,265
First 6 months 1935	721,897	644,224	711,791	691,590	716,162	693,420	4,179,084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the drilling in the main body of the field, as production will then be taken from flank wells only.

Shongaloo Test

The lower Marine formation showed indications of oil production during April when the Magnolia Petroleum Co. No. 1 Roseberry Unit, a deep test in the old Shongaloo gas field flowed 17 bbl. per hour of 50-gravity oil through perforations at 9,150-87 ft., before being killed to reperforate. The test encountered mechanical trouble and was plugged back, and again drilling for the deep sand at the end of June.

Following success in finding deep gas-distillate production in the lower Marine of Shongaloo last year, the Magnolia Petroleum Co. drilled a deep test in the nearby Carterville gas field, which was abandoned without a show at total depth of 10,066 ft., early in the year.

In southeastern Webster Parish, Union Producing Co. is still drilling No. 1 Walker Unit, a deep lower Marine test in the Sibley-Dubberly area. The test was being carried below 10,300 ft. at the close of June without any show in the lower Marine.

In Union Parish, a Smackover lime test, Standard Oil Co. and Joe Modisett No. 1-B Frost Lumber, Inc., a Junction City district test, cored salt water in porous lime at 8,635 ft. and was abandoned at 8,755 ft. in June, the fifth failure for a Smackover lime test in the South Arkansas-North Louisiana trend during the past 6 months.

East Texas Border

The Jefferson-Lodi area continued as the most actively drilled sector of the Rodessa field during the first half of 1939, although activity declined in the spring and only recently revived.

The most important development in the border coun-

(Continued on Page 156)

ARKANSAS

Summary of Wells Completed First Half of 1939

County—	Comp.	Prod.	Dry	Gas
Calhoun	1	0	1	0
Clark	1	0	1	0
Columbia	36	23,990	2	0
Craighead	1	0	1	0
Lafayette	10	2,250	6	0
Lincoln	1	0	1	0
Little River	2	0	2	0
Lonoke	2	0	2	0
Limmer Rodessa	10	4,010	1	0
Miller, other	1	0	1	0
Mississippi	1	0	1	0
Nevada	6	355	1	0
Ouachita	1	0	1	0
Paluski	1	0	1	0
Union	47	13,695	12	1
Total first half 1939	121	44,300	34	1

Completions by Months

Month—	Comp.	Prod.	Dry	Gas
January	30	11,110	8	1
February	19	6,280	6	0
March	15	5,970	4	0
April	17	6,760	5	0
May	21	9,060	4	0
June	19	5,120	7	0
Total	121	44,300	34	1
Total first half 1938	126	77,620	22	1
Difference	5	33,320	12	0

EAST BORDER TEXAS

Summary of Wells Completed First Half of 1939

County—	Comp.	Prod.	Dry	Gas
Harrison	3	5	1	1
Marion-Rodessa	18	6,350	0	1
Marion, other	5	125	3	0
Panola	2	0	1	1
San Augustine	1	0	1	0
Total first half 1939	29	6,480	6	3

Completions by Months

Month—	Comp.	Prod.	Dry	Gas
January	10	1,905	1	1
February	2	235	0	0
March	3	1,340	0	0
April	2	240	1	0
May	7	890	4	2
June	5	1,870	0	0
Total	29	6,480	6	3
Total first half 1938	80	24,530	9	3
Difference	51	18,050	3	0

Gas production: Harrison County 5,040,000 cu. ft., Marion County 1,000,000 cu. ft., Panola County 40,000,000 cu. ft.

MISSISSIPPI

Summary of Wells Completed First Half of 1939

County—	Comp.	Prod.	Dry	Gas
Hinds	1	0	1	0
Lowndes	1	0	1	0
Madison	1	0	1	0
Simpson	1	0	1	0
Yalobusha	1	0	1	0
Total first half 1939	5	0	5	0

Completions by Months

Month—	Comp.	Prod.	Dry	Gas
March	2	0	2	0
May	1	0	1	0
June	2	0	2	0
Total	5	0	5	0
Total first half 1938	13	0	11	2
Difference	8	0	6	2

ALABAMA

Summary of Wells Completed First Half of 1939

County—	Comp.	Prod.	Dry	Gas
Barbour	1	0	1	0
Total first half 1939	1	0	1	0

Completions by Months

Month—	Comp.	Prod.	Dry	Gas
March	1	0	1	0
Total	1	0	1	0
Total first half 1938	3	0	3	0
Difference	2	0	2	0

FLORIDA

Summary of Wells Completed First Half of 1939

County—	Comp.	Prod.	Dry	Gas
Lake	1	0	1	0
Munroe	1	0	1	0
Total first half 1939	2	0	2	0

Completions by Months

Month—	Comp.	Prod.	Dry	Gas
March	1	0	1	0
June	1	0	1	0
Total	2	0	2	0
Total first half 1938	0	0	0	0
Difference	2	0	2	0

GEORGIA

Summary of Wells Completed First Half of 1939

County—	Comp.	Prod.	Dry	Gas
Pierce	1	0	1	0
Total first half 1939	1	0	1	0

Completions by Months

Month—	Comp.	Prod.	Dry	Gas
May	1	0	1	0
Total	1	0	1	0
Total first half 1938	0	0	0	0
Difference	1	0	1	0

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Semi-Annual Review

THREE FIELDS OPENED IN FIRST HALF OF YEAR; OUTPUT IS CONTROLLED

By L. P. STOCKMAN

Discovery of three oil fields, Northeast Coalinga in Fresno County and Arvin and Strand in Kern County; application on June 1 of a new method of curtailment embracing a uniform method of allocation; enactment of compulsory regulatory control legislation by the California Legislature; initiation of a federal grand-jury investigation to determine possible violation of the Sherman antitrust law, and alleviation of a serious situation by a withdrawal in stocks during May, the first substantial draft on storage since November 1937, were important developments in California during the first 6 months of 1939.

Gasoline consumption in Pacific Coast territory came up to expectations, but offshore shipments were substantially below similar liftings during the same period last year.

Approximately 127,500,000 bbl. of crude oil were added to the state's reserves by discovery of the three fields, and additions in reserves were made in other areas, but this tentative estimate may later prove to be inadequate and require an upward revision.

The California Oil and Gas Control Act of 1939, the so-called Atkinson bill, designed to regulate crude-oil production, transportation, and distribution, is not expected to become a factor of any great importance in 1939, as 90 days must elapse after signature before the bill becomes effective and also because of the announced intention to circulate referendum petition to stay its application until approved or defeated by the electorate. Indications point to the probability that the measure will be submitted to voters at a special election scheduled for November 7 if 132,265 valid signatures are secured on the proposed referendum.

Crude-Oil Production

Crude-oil production in California during the first half of 1939 was at the rate of 220,000,000 bbl. annually, but it is highly improbable that the official curtailment agency will permit actual production to reach that volume. The new uniform method of allotment, which became effective June 1, greatly simplified administration of the curtailment program and resulted in a pronounced reduction in production for the final month of the period, and will therefore undoubtedly have a tendency to restrict actual production during the latter part of the current year. California does not have a state-control bill, and the crude-oil production is curtailed or prorated on a mutually cooperative basis. In addition to the restricting tendency of the uniform method of allocation, the situation should be enhanced by the fact that only one field, Montebello, is being intensively developed as a result of town-lot drilling. Montebello's peak production may be attained and the field's output headed for a lower level before the end of this year if a new deeper productive zone is not discovered.

Arvin Discovery

The first discovery of 1939 was made in the Arvin district of Kern County on February 24 when No. 1 Jewett, of Standard Oil Co., in Section 16-31-29 was brought in flowing 2,875 bbl. of clean 31.7-gravity oil and 900,000 cu. ft. of gas per day from the Chanac formation of lower Pliocene age. This well was bottomed at 6,270 ft. and finished with an 8⅝-in. water string landed at 6,070 ft. and 290 ft. of 6⅝-in. liner, including 204 ft. of perforated and 6,242 ft. of 2½-in. tubing. No. 1 Jewett was a joint test of Standard Oil Co., Superior Oil Co., and the Texas Co., and although the well was located on the Jewett lease of Standard Oil Co. and subsequently became the property of this company, actual drilling was done by Superior Oil Co. Producing horizon is the lower part of the Chanac formation, consisting of interbedded oil sand and grayish-green clays, and is approximately the same zone that is productive in the Mountain View field to the northwest. Closure appears to be effected on the east by the Mountain View fault, which likewise traps production in the Mountain View field, and on the north by either a sedimentary change or a crossfault with the latter a likely possibility. The regional dip in this area is to the southwest, and although the Arvin field appears to be about 800 ft. lower structurally than the Mountain View field, the gravity of the oil is several degrees higher. In contrast with other recent discoveries in the San Joaquin Basin, which were indicated by seismograph or other geophysical surveys, the Arvin field was selected after a geological study of the cores of abandoned wells and results of previous exploratory wells. Standard Oil Co. holds leases on 880 acres, Superior Oil Co. on 300 acres, and the Texas Co. on 400 acres, but it is problematical just how much of this covering will be found productive, as this accumulation is a fault trap.

PRODUCTION OF CRUDE BY MONTHS—CALIFORNIA OIL DISTRICTS

(In barrels of 42 U. S. gallons)

	1939		1938	
Month—	Total bbl.	Dly. av.	Total bbl.	Dly. av.
January	19,274,079	621,744	22,008,235	709,943
February	17,418,952	622,105	20,607,735	735,991
March	19,283,785	622,058	22,441,293	723,913
April	18,403,853	613,462	21,647,430	721,581
May	19,073,972	615,289	21,346,950	688,611
June	18,225,832	607,527	20,170,317	672,343
Total	111,680,473	617,019	128,221,960	708,409

Northeast Coalinga

The second discovery was Northeast Coalinga in Fresno County, made April 24, 1939, when Amerada Petroleum Corp. completed No. 7-17 S.P.L. in Section 17-19-16, flowing 4,230 bbls. of clean 32.4-gravity oil and 14,200,000 cu. ft. of gas per day from the Avenal or

TOTAL FLUID STOCKS OF PETROLEUM HELD IN PACIFIC COAST TERRITORY

(Barrels)

1939—	Heavy crude and fuel	Diesel and gas oil	Refinable crude	Natural gasoline	Gasoline	Naphtha distillate	All other stocks	Total all stocks
January 1	*87,240,058	*10,539,937	*36,225,312	*2,699,455	*13,259,369	1,566,349	6,153,809	*157,684,289
January 31	87,600,593	10,689,438	36,831,079	2,536,877	14,265,941	1,669,331	6,338,218	159,931,477
February 28	87,124,953	10,632,151	38,353,224	2,290,365	15,040,909	1,566,651	6,109,390	161,117,643
March 31	86,360,372	10,382,404	39,215,749	2,137,837	15,805,417	1,384,449	6,306,740	161,592,968
April 30	86,073,697	10,826,518	39,530,900	2,201,339	15,400,469	1,407,569	6,656,202	162,096,094
May 31	85,534,658	10,244,405	39,830,694	2,423,266	15,044,669	1,339,712	6,933,820	161,351,224

*Revised.

CALIFORNIA PRODUCTION OF CRUDE OIL BY DISTRICTS, JANUARY TO JUNE, INCLUSIVE, 1939

	January (bbl.)	February (bbl.)	March (bbl.)	April (bbl.)	May (bbl.)	June (bbl.)	Ttl. 6 mos. (bbl.)
Northern fields—							
Arvin	.....	2,711	5,061	13,694	20,857	30,166	72,489
Belridge—North	388,929	343,201	370,953	346,630	363,032	359,912	2,172,657
Belridge—South	34,542	32,796	37,423	33,360	34,564	31,859	204,544
Canal	121,873	114,277	138,459	127,843	143,185	154,183	799,820
Canfield Ranch	976	682	1,428	1,053	586	567	5,292
Coalinga	299,322	273,481	328,444	334,254	370,004	398,609	2,004,114
Coles Levee	5,307	5,027	6,983	8,767	12,601	18,964	57,649
Edison	77,761	68,289	70,072	69,180	74,072	66,270	425,644
Elk Hills	312,707	284,901	313,810	296,762	305,724	317,851	1,831,755
Fruitvale	219,706	204,534	218,640	203,271	203,025	195,448	1,244,624
Greeley	64,474	58,509	55,537	48,621	61,197	59,430	347,768
Kern River	348,615	306,276	348,846	334,456	326,433	308,756	1,973,382
Kettleman Middle Dome	1,157	1,104	1,142	1,008	974	901	6,286
Kettleman North Dome	1,809,875	1,619,227	1,739,082	1,591,704	1,647,345	1,575,359	9,982,592
Lost Hills	100,361	93,028	106,009	99,160	96,808	91,981	587,347
McKittrick	114,758	105,328	120,856	88,194	113,399	108,120	650,655
Midway-Sunset	1,725,620	1,567,399	1,718,505	1,588,667	1,646,753	1,550,068	9,797,012
Mountain View	272,635	258,817	266,847	252,834	252,977	275,220	1,579,330
Mount Poso	419,256	385,686	411,456	393,680	380,892	372,211	2,363,181
Rio Bravo	244,462	216,153	252,491	251,963	238,842	229,408	1,433,319
Round Mountain	375,374	349,581	360,030	327,911	329,847	316,747	2,059,490
Strand	.....	.....	.....	.....	.....	3,480	3,480
Ten Section	271,046	250,745	282,373	259,560	276,778	274,530	1,615,032
Tupman	9,419	7,704	8,186	15,584	15,517	17,385	73,795
Wasco	21,766	19,496	27,982	21,563	37,953	34,529	163,289
Wheeler Ridge	11,825	11,179	11,517	9,626	10,160	9,901	64,208
Coastal fields—							
Capitan	84,947	76,203	82,649	74,506	75,219	72,618	466,132
Elwood	143,907	132,116	143,647	127,695	131,997	113,972	793,334
Rincon	119,241	102,666	90,626	87,458	109,130	113,580	622,701
San Miguelito	76,931	63,972	72,058	72,374	78,285	74,550	438,170
Santa Barbara	10,601	10,669	8,946	8,387	9,290	8,134	56,007
Santa Maria	515,026	417,461	533,279	557,337	499,595	539,613	3,062,311
Summerland	604	952	669	931	1,289	1,212	5,657
Ventura Avenue	1,044,011	959,633	1,044,235	995,831	1,088,602	1,144,327	6,276,639
Ventura-Newhall	170,985	156,093	180,683	178,201	178,463	173,701	1,038,126
Watsonville	930	840	930	900	930	900	5,430
Southern fields—							
Brea Olinda	173,586	157,142	174,729	166,959	169,429	171,147	1,012,992
Coyote—East	80,109	72,228	78,346	67,217	69,201	69,570	436,671
Coyote—West	245,377	223,585	247,070	231,352	232,829	228,615	1,408,828
Dominguez	673,179	595,245	658,930	634,435	665,158	546,936	3,773,883
El Segundo	124,081	105,180	106,993	99,067	102,090	96,778	634,189
Huntington Beach	851,735	779,655	889,011	875,013	921,922	800,074	5,117,410
Inglewood	400,947	355,368	392,048	350,898	365,520	377,909	2,242,690
Lawndale	1,945	1,990	2,215	2,016	1,897	1,814	11,877
Long Beach	1,525,810	1,391,985	1,503,841	1,456,771	1,497,634	1,370,597	8,746,638
Los Angeles-Salt Lake	15,406	15,456	15,604	14,804	15,692	15,002	91,964
Montebello	451,473	386,158	465,635	464,868	542,412	613,355	2,923,901
Playa Del Rey	165,756	150,083	164,321	156,030	153,113	152,939	942,242
Potrero	28,760	29,790	27,239	28,623	32,941	30,296	177,649
Richfield	252,057	228,447	263,872	256,567	266,712	249,601	1,517,256
Rosecrans	464,685	443,950	472,547	406,007	397,338	360,252	2,544,779
Santa Fe Springs	922,327	806,734	877,831	833,717	850,160	831,333	5,122,102
Seal Beach	236,612	213,860	235,959	220,677	227,478	213,510	1,348,096
Torrance	610,531	595,231	678,666	651,628	608,155	575,129	3,719,340
Whittier	30,618	27,602	30,545	29,109	31,487	30,316	149,677
Wilmington	2,600,136	2,338,527	2,638,529	2,635,130	2,786,479	2,466,197	15,444,998
Total production	19,274,079	17,418,952	19,283,785	18,403,853	19,073,972	18,225,832	111,680,473
Daily average	621,744	622,105	622,058	613,462	615,289	607,527	617,019

Gatchell zone of Eocene age. The discovery well was bottomed at 8,237 ft. and finished with a 7-in. water string landed at 8,022 ft. and 262 ft. of 5-in. liner, including 139 ft. of perforated landed on bottom and cemented through perforations at 8,097 ft. and 7,941 ft. of 2½-in. tubing. The cement job through perforations at 8,097 ft. blanked off the top 67 ft. of the Gatchell zone, which consisted of a gas cap of high concentration. Top of the Gatchell zone was cored at 8,030 ft., top of the glauconitic sand was logged at 7,960 ft., and top of the Kreyenhagen was found at 6,995 ft. Geological data indicates the probability that the discovery well is on a broad southeasterly plunging nose separated from the Southeast Coalinga field by a syncline. This theory is manifested by the difference in gas-oil ratio between the two areas, although production updip appears to be limited by the old Eocene shore line in both areas. The discovery well in the Northeast Coalinga field is about 4 miles north of the present productive limits in the northern part of the Southeast Coalinga field. It is a little too early to estimate with any degree of accuracy the probable productive trend of the Northeast Coalinga field, but if it proves comparable with the Southeast Coalinga field, it will be a field of the first magnitude and of primary importance.

New Pool in Strand District

The third discovery was made by Tide Water Associated Oil Co. in the Strand district of Kern County when No. 35-E Kern County Land in Section 7-30-26 was brought in flowing 1,306 bbl. of clean 34.1-gravity oil and 978,000 cu. ft. of gas per day from the Stevens zone of upper Miocene age with bottom of the hole at 8,364 ft. but the effective depth at 8,320 ft. This well was finished with an 8⅝-in. water string landed at 8,300 ft. and 45 ft. of 6⅝-in. liner, including 19 ft. of perforated and 8,200 ft. of 2½-in. tubing. It is about 1 mile northeast of the Canal field and about 3 miles north of the Ten Section field. The Greeley field is about 4 miles north and the Rio Bravo field about 10 miles northwest.

All discoveries in the San Joaquin Basin in the past few years have been important, with the possible exception of the Canfield Ranch area. The discovery well in the Strand district was drilled by Tide Water Associated Oil Co. as a joint undertaking with Continental Oil Co. the latter having acquired the acreage and done the preliminary mapping and seismograph work. When Tide Water Associated Oil Co. began work in the Strand district, Continental Oil Co. moved southeastward and started a new exploratory hole in Section 14-30-26 on a new seismograph high.

Shipments

Intercoastal shipments to Atlantic and Gulf Coast ports during the first 6 months of 1939 were higher than during the first half of last year, but the export movement to foreign ports was substantially lower. This decline reflects primarily a curtailment of purchases by Japan, although shipments to Atlantic foreign ports were also lower this year. The largest decline, however, occurred in liftings to Pacific foreign ports and, as might be expected, shipments of crude oil showed the largest drop. Pacific foreign shipments of finished gasoline were also lower, but the movement in the same trade channels of fuel oil, Diesel and gas oil, natural gasoline, and kerosene remained fairly steady and registered very little change. Shipments of fuel oil and refinery residuum to the Atlantic seaboard for domestic consumption, which began with one cargo in October 1938, continued uninterrupted during the first 6 months of 1939, but shipments of crude oil to the same area, which began in March 1938 were rather spotty and somewhat irregular. Intercoastal shipments of gasoline to Atlantic and Gulf Coast ports continued with regularity and were on about a par with similar liftings last year. Recent indications point to a continuance of intercoastal shipments of fuel oil to the Atlantic seaboard for domestic consumption, and a recent fixture calls for the movement of 200,000 bbl. of heavy California crude oil to the Atlantic Coast, with a possibility of several additional loads.

Extension Work

Several fields discovered prior to 1939 were extended during the past 6 months, with the limits of production not yet defined in some fields. Southeast Coalinga field was substantially enlarged, but the outer limit has only been defined at one point. Union Oil Co., Tide Water Associated Oil Co., and Standard Oil Co. in the Coles Levee field added about 800 acres of productive acreage.

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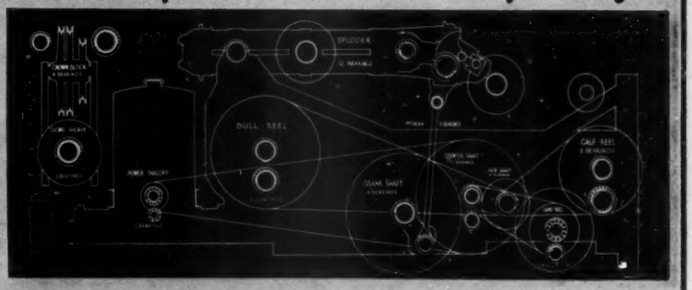
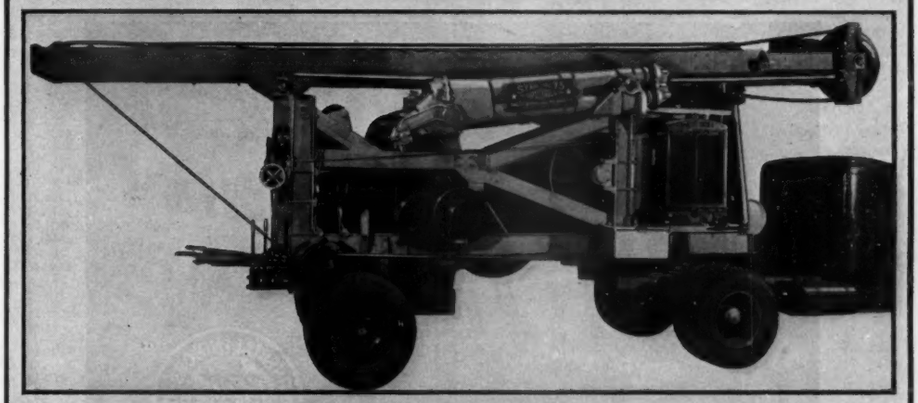


This diagram shows the location of bearings on the No. 75 Spudrill. Only one bearing is shown on each shaft, although several may be used.



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Standard's outpost was located west of Ohio Oil Co.'s discovery well, while the outposts of Union and Tide Water Associated were located east and southeast of the initial well. In the Montebello field the outer limits of production to the north, west, and south remain to be determined. Late in June an outpost was recompleted south of Beverly Boulevard, and this well, which was redrilled and deepened from the seventh to the eighth zone and returned to production flowing 1,000 bbl. per day, was the signal for other operators to enlarge the scope of the town-lot drilling campaign, which had been restricted to the area located north of the boulevard.

The productive limits on the north flank of the Ventura Avenue structure were extended by two excellent flowing wells, completed in the deep 57 zone in a section that for several years has been considered doubtful. British American Oil Co. late in May brought in No. 7 Hartman, flowing 1,500 bbl. of 31.1-gravity oil and 2,300,000 cu. ft. of gas per day from a depth of 8,400 ft., and the Lloyd Corp. confirmed the importance of the find when No. 2 Dabney-Lloyd blew in flowing 2,250 bbl. of clean 31.4-gravity oil and 4,000,000 cu. ft. of gas per day from 9,975 ft. while the crew was engaged in fishing for a string of drill pipe that had froze on bottom and parted at 400 ft. Completion of these wells has stimulated drilling operations on the north flank. The Rio Bravo, Tupman, Wasco, and Rosecrans fields were all extended, and indications point to a further enlargement between now and the end of the year.

CALIFORNIA FIELD OPERATIONS BY MONTHS FOR FIRST HALF OF 1939

1939	Oil wells completed: No.	Oil wells completed: Bbl. dly.	Dry and abd.
January	66	50,797	23
February	61	40,742	8
March	58	53,034	19
April	87	71,963	45
May	60	82,444	19
June	59	46,736	23
First half 1939	382	345,716	137
First half 1938	533	533,089	138
Monthly average:			
First half 1939	64	57,619	23
First half 1938	89	88,848	23

CALIFORNIA FIELD OPERATIONS BY DISTRICTS FOR FIRST HALF OF 1939

	Oil wells completed: No.	Oil wells completed: Bbl. dly.	Dry and abd.
Northern—			
Arvin	5	10,827	..
Belridge—North	7	3,752	1
Belridge—South	..	..	3
Canal	8	14,194	..
Canfield Ranch	..	..	..
Coalinga	24	61,881	11
Coles Levee	3	1,557	..
Edison	2	125	2
Elk Hills	1	147	..
Fruitvale	3	499	3
Greeley	3	13,804	1
Kern River	9	93	8
Kettleman Middle Dome	..	..	..
Kettleman North Dome	14	34,037	1
Lost Hills	1	69	1
McKittrick	4	229	3
Midway-Sunset	7	545	5
Mountain View	..	..	..
Mount Poso	5	1,426	7
Rio Bravo	7	13,085	..
Round Mountain	4	343	3
Strand	1	1,552	..
Ten Section	5	14,114	..
Tupman	1	1,592	..
Wasco	3	16,087	..
Wheeler Ridge	1	104	..
Total	118	190,062	49
Coastal—			
Capitan	..	..	1
Elwood	..	..	2
Rincon	3	1,293	..
San Miguelito	1	2,684	1
Santa Barbara	2	194	..
Santa Maria	8	9,102	5
Summerland	..	..	1
Ventura Avenue	11	20,899	..
Ventura—Newhall	8	4,054	9
Watsonville	..	..	..
Total	33	38,226	19
Southern—			
Brea Olinda	2	235	1
Coyote—East	1	300	..
Coyote—West	2	1,278	..
Dominguez	6	4,282	1
El Segundo	..	..	..
Huntington Beach	13	4,281	..
Inglewood	..	..	..
Lawndale	..	..	1
Long Beach	1	179	..
Los Angeles-Salt Lake	..	..	..
Montbello	25	22,803	2
Playa Del Rey	1	90	..
Potrero	2	651	..
Richfield	1	50	3
Rosecrans	20	8,241	1
Santa Fe Springs	1	394	..
Seal Beach	1	153	1
Torrance	67	25,319	3
Whittier	..	..	1
Wilmington	84	49,172	..
Miscellaneous	..	..	54
Total	227	117,428	68
Total oil fields	378	345,716	136
Gas fields—			
Buena Vista Lake	..	..	1
Buttonwillow	..	..	..
Chowchilla	..	..	..
Delano	4	Gas	..
Dudley Ridge	..	..	..
Goleta	..	..	..
Marysville Buttes	..	..	..
McDonald Island	..	..	..
Rio Vista	..	..	..
Semi-Tropic	..	..	..
Tracy	..	..	..
Total gas fields	4	Gas	1
Total state	382	345,716	137

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AT LEFT — Two PR-501 Power Units on tandem drive drilling rig.

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La.-Ark. Fields

(Continued from Page 152)

ties was the discovery of a new gas-distillate field in Panola County. The Turner & Smith No. 1 J. W. Bird, located in the Gillespie Survey about 7 miles east of Carthage, was brought in during May for a lower Glen Rose producer. The well was making an estimated rated potential of 24,000,000 cu. ft. with a pressure of 2,300 lb. On a back-pressure test it was given a rated potential of 24,000,000 cu. ft. with a 60-gravity distillate recovery of 20 to 25 bbl. per million cubic feet. Distillate is water white, and no water is shown in the production. Reported plans are for further development of the field, with the installation of a recycling plant.

The Joaquin field of Shelby County showed little drilling activity, with one well on the gas-distillate formation shut down at the close of June, and a north outpost in southern Panola County abandoned with salt water in the porus strata.

In Harrison County, Arkansas Louisiana Gas Co. completed a 6,000-ft. gas-distillate well in the Waskom field and is now drilling another.

An oil discovery of minor importance was made in Marion County when the M. D. Fitzwater No. 1 Terry, W. Coor Survey, made 5 bbl. hourly before being shut in, in June. Further development of this prospect is expected this summer.

Semi-Annual Review

CENTRAL AND NORTH TEXAS HAD BUSY HALF YEAR; EAST TEXAS QUIET

By D. H. STORMONT

Twelve oil fields, the majority of which promise to be substantial producing areas, are the results of wildcat exploration in the North Texas district in the first half of 1939. Archer County ranked first with five new fields, Cooke, Montague, and Clay counties each received two new oil areas, and Baylor County received one new pool.

The extensive search for Strawn production throughout the entire district resulted in the discovery of most of the fields. The greatest wildcatting program in recent years was carried on in the northern tier of Texas counties, reaching its height in March and April when five Strawn sand fields were opened.

Archer County's discoveries included two Strawn pools, both of which are receiving development; two Caddo lime pools, the first two such pools in the county; and a shallow Thomas sand pool.

Archer County's shallow pool was opened by Ralph C. Hart No. 1 J. D. Carpenter, Lot 38-4, Clark and Plumb subdivision, which was completed for 30 bbl. of oil in 7 hours from the Thomas sand at 905-07 ft.

The two new fields opened in Clay County were attracting the greatest amount of interest, as possibilities were seen for a large field engulfing the two areas. With some 9 miles separating the two pools, opinion was expressed that a trend would be established and would yield, perhaps spotted production, in the entire area between the pools. The first of the two areas and the discovery which stimulated the widespread Strawn exploration campaign in the county, was L. T. (Bobby) Burns No. 1 Browning, Block 94, J. Belcher Survey, 9 miles southwest of Blue Grove and in the southwestern quarter of the county. Completed for 1,348 bbl. daily, the well is producing from 4,432-61 ft. An offset to the well, Shell Oil Co., Inc., No. 1 Davis, was dry and abandoned, but there were as of July 1 two producing wells in the field and two others in the process of drilling. Nine miles northeast of the Browning pool, Bridwell Oil Co. completed No. 1 F. Halsell, Block 16, W. C. Survey, 2 miles northeast of the town of Halsell, for 158 bbl. in 3 hours or at the rate of about 1,264 bbl. daily. Production is also from the Strawn which showed saturation at 4,754-93 ft. Neither of these new pools has an outlet and further development is somewhat restricted for this reason. There have been some 12 deep Strawn wildcats drilled in the southwestern quarter of the county, all seeking the production found in the two pool openers. As of the first of July several had been abandoned as dry holes and several were in the testing stages and offering good possibilities of commercial production.

Late in February, Rogers & Rogers completed No. 1 J. E. Burnett, J. Lenow Survey, 1 mile west of the town of Nocona in Montague County, for 523 bbl. of oil per day to open a new Bend lime producing area. The field has three producing wells and is not entirely defined on any side. The other Montague County field opener was J. W. Holmes and J. Benton No. 1 Bowers Estate, Block 55, M.E.P.&P. Survey, Abstract 528. The well was completed for 21 bbl. of oil per hour from 2,887-2,925 ft. and there are now two wells in the pool.

In January, British American Oil Producing Co. completed No. 1 F. C. Green, Section 215, T.&N.O. Survey, 9 miles east of Seymore in Baylor County to open a pool from the Canyon lime. The well made 269 bbl. of oil and 190 bbl. of water on a 24-hour test from 2,580 to 2,605 ft. Two other tests were drilled in the area, one completed for an oil producer and the other abandoned.

Future Development

The greatest amount of development over the next 6 months is expected in Archer and Clay counties. With the possibility seen that the Hull-Silk pool and the Sikes pool of Archer County will link together, several tests have been staked in the intervening area. Clay County's wildcat exploration program was continuing unchecked as the year passed the half-way

NORTH TEXAS

Daily Average and Monthly Production in First Six Months of 1939

County—	January (bbl.)	February (bbl.)	March (bbl.)	April (bbl.)	May (bbl.)	June (bbl.)	Tl. 6 mos. (bbl.)
ARCHER:							
Daily average	10,440	10,342	10,585	10,629	10,848	10,815	
Month	323,630	289,566	328,136	318,861	336,281	324,461	1,920,935
BAYLOR:							
Daily average	1,109	1,129	1,106	1,091	1,085	1,063	
Month	34,381	31,621	34,300	32,736	33,648	31,890	198,576
CLAY:							
Daily average	1,914	1,963	2,085	2,494	2,460	2,491	
Month	59,341	54,963	64,636	74,825	76,253	74,727	404,745
COOKE:							
Daily average	4,526	4,613	4,817	5,155	5,333	5,611	
Month	140,302	129,171	149,335	154,647	165,335	168,330	907,120
FOARD:							
Daily average	446	507	527	494	400	460	
Month	13,817	14,191	16,339	14,822	12,409	13,792	85,370
JACK:							
Daily average	6,426	6,175	6,410	6,787	6,662	6,312	
Month	199,203	172,894	198,725	203,604	206,513	189,361	1,170,300
MONTAGUE:							
Daily average	5,014	5,007	5,164	5,363	5,383	5,410	
Month	155,420	140,206	160,096	160,892	166,868	162,300	945,782
WICHITA:							
K.M.A.—							
Daily average	19,002	18,644	19,719	22,888	22,694	24,809	
Month	589,057	522,041	611,278	686,626	703,510	744,276	3,856,788
Burkburnett—							
Daily average	5,039	4,907	5,102	5,006	4,970	5,096	
Month	156,210	137,400	158,170	150,184	154,070	152,872	908,906
Electra—							
Daily average	8,810	8,756	8,696	8,405	8,412	8,879	
Month	273,115	245,174	269,568	252,149	260,775	266,361	1,567,142
Miscellaneous—							
Daily average	939	1,112	1,862	1,110	1,147	1,111	
Month	29,119	31,135	57,722	33,300	35,557	33,326	220,159
WILBARGER:							
Daily average	8,535	9,133	8,457	8,815	9,019	8,265	
Month	264,594	255,726	262,155	264,459	279,602	247,954	1,574,490
YOUNG:							
Daily average	10,283	10,149	10,215	10,488	10,524	10,507	
Month	318,787	284,161	316,666	314,654	326,249	315,210	1,875,727
Daily average	82,483	82,437	84,746	88,725	88,938	90,829	86,387
First 6 months 1939	2,556,976	2,308,249	2,627,126	2,661,759	2,757,070	2,724,860	15,636,040
First 6 months 1938	1,945,461	1,766,208	2,036,377	2,081,460	2,071,764	1,961,367	11,865,637
First 6 months 1937	1,778,992	1,846,548	2,103,245	2,051,278	2,158,059	2,085,354	12,223,476
First 6 months 1936	1,922,589	1,731,764	1,910,158	1,913,520	1,970,360	1,897,470	11,345,861
First 6 months 1935	1,879,747	1,740,760	1,874,384	1,825,350	1,919,210	1,852,710	11,092,161

NORTH TEXAS DISCOVERIES FIRST HALF OF 1939

County, location, and discovery well—	Date	Depth	Gage	Formation	No. of wells	Name of pool	Remarks
Cooke—D. Fulton Sur., west central part of county; Whitfield, Pearson & Grimes No. 2 B. Voth	January	1,783-93	302 bbl./17 hr.	Ellenburger of Lower Ordovician	11	Voth pool	
Baylor—Sec. 215, T.&N.O. Sur., 9 miles E. of Seymore; British American Oil Prod. Co. No. 1 F. C. Green	January	2,580-2,605	260 B.O.P.D. 190 B.W.P.D.	Upper Canyon	2	Seymore pool	
Montague—J. Lenow Sur., 1 mile W. of Nocona; Rogers & Rogers No. 1 J. E. A. Burnett	February	4,639-48	523 bbl./day	Bend lime	3	New Nocona pool	
Archer—T. Cecil Sur., 4 miles NE. of Hull-Silk pool; Louis Sikes No. 1 Ford	February	4,375-4,402	200 bbl./day	Strawn	2	Sikes pool	
Montague—Blk. 55, M.E.P.&P. Sur., Abst. 528; J. W. Holmes and J. Benton No. 1 J. Bowers Estate	March	2,887-2,925	523 bbl./day	Strawn	2	Bonita pool	
Clay, Blk. 94, J. Belcher Sur., 6 miles SW. of Blue Grove; L. T. (Bobby) Burns No. 1 Browning	March	4,432-61	1,348 bbl./day	Strawn	2	Browning	Lack of pipe-line outlet restricts further development
Archer—Sec. 3, Blk. 4, H.&T.C. Sur., 7 miles W. of Mankins; E. P. Griffin No. 1 Waggoner	April	4,394-4,407	500 bbl. (est.)	Strawn	2	Griffin pool	
Clay—Blk. 16, W.C. Sur., 2 miles NE. of Halsell; Bridwell Oil Co. No. 1 F. Halsell	April	4,754-93	158½ bbl./3 hr.	Strawn	1	Halsell pool	
Archer—Blk. 4, Sec. 12, H.&T.C. Sur., 3 miles S. of Mankins, British American Prod. Co. No. 1 T. B. Wilson	April	4,666-96	830 bbl./15 hr.	Caddo lime	1	Mankins Deep	
Cooke—In Walnut Bend field; Sinclair Prairie Oil Co. No. 8 Best	May	5,141-73	214 bbl./day	Lower Strawn	1		Deeper horizon for Walnut Bend field
Archer—Lot 38-4, C.&P. subd.; Ralph C. Hart No. 1 J. D. Carpenter	June	905-907	30 bbl./7 hr.	Thomas sand	1	Hart pool	
Archer—Sec. 60, Blk. 3, C.&P. subd.; Kadane Oil Corp. No. 1 Hemmi	June	5,164-5,284	165 bbl./day	Caddo lime	1	Kadane pool	

WEST CENTRAL TEXAS DISCOVERIES FIRST HALF OF 1939

County, location, and discovery well—	Date	Depth	Gage	Formation	No. of wells	Name of pool	Remarks
Young—Newhaus Sur., 4½ miles W. of Graham; Groves Braden No. 1 Clark	January	3,850-62	300 bbl./day	Caddo lime	1	Braden-Clark	
Shackelford—Sec. 210, E.T. Sur., west part of county; Jessie L. Douglas No. 1 W. D. Baker	January	1,883-98	50 bbl./day	King sand	1	Douglas pool	
Callahan—Sec. 281, B.A.L. Sur., on Taylor and Callahan county line; Cooper-Roberts-Robertson No. 2 Bowles	January	1,753-56	122 bbl./day	Cooke sand	2	Bowles pool	
Jack—Sec. 2784, T.E.&L. Sur., 3 miles N. of Jermyn; Pitzer & West No. 1 Fred Warren	February	4,365-4,418	150 bbl./day	Strawn	1	Warren pool	
Palo Pinto—Sec. 1789, T.E.&L. Sur.; J. W. Lane and W. D. Dilbeck No. 1 Dalton	March	1,220-38	75 bbl./day	Strawn	2	Lane area	
Jones—SW¼ Sec. 31, B.B.B.&C. Sur.; Gregg Oil Co. No. 1 Appling	March	2,832-35	28½ bbl./hr.	Swastika sand	2	Appling pool	Two oil wells and six dry holes drilled
Stephens—Sec. 39, Blk. 7, T.&P. Sur.; Lone Star Gas Co. No. 1 S. S. McKee	March	4,107-17	268 bbl./day	Ellenburger of Lower Ordovician	1	McKee area	
Callahan—M. Cherry Sur., near Eastland County line; L. A. Warren & Kleiner No. 1 Cozart	April	1,651-75	45 bbl./day	Cisco sand	1	Scranton area	
Coleman—Southeast part of David Breeding Sur.; Anzac Oil Co. No. 4-C Morris ranch	June	2,174-90	2,250 bbl./day	Upper Strawn	1	Anzac area	
Eastland—Sec. 476, S.P. Sur.; Lone Star Gas Co. No. 1 G. P. Mitcham	June	3,890-3,914	2,300,000 cu. ft. gas/day	Bend	1	Cisco Lake area	
Jones—Sec. 44, Blk. 15, T.&P. Sur., in Guitar pool; T. D. Humphrey No. 2 Guitar	June	2,139-52	40 bbl./day	Lower Hope lime	1		Deeper horizon for Guitar pool
Stonewall—Sec. 45, Blk. D, H.&T.C. Sur.; Forest Dev. Co. and King Drlg. Co. No. 1 Boyd	June	4,690-4,727	188 bbl./day	Palo Pinto	1	Boyd area	Well finally completed by Helmerich & Payne Drlg. Co.

mark with production possibilities seen in as many as three widely separated wildcat tests in the southwestern quarter of that county.

Drilling activity in the K.M.A. field of Wichita and Archer counties continues at about the normal pace of five to seven completions weekly with little expansion and edge-well drilling seen. The Walnut Bend field of northern Cooke County is proving one of the major recent fields of North Texas and is experiencing considerable activity as new operators are acquiring acreage in and near the proven area. In the K.M.A. field much drilling is the result of the development of the state-owned Big Wichita River bed leases. As the state continues to lease this land additional drilling can be expected as these wells, spaced 1,000 ft. apart in the river bed, require two new offsets in most instances. Lifting of pipe line proration in the latter part of the first 6 months acted to stimulate drilling to a slight extent.

WEST CENTRAL TEXAS

Exploration and development of the Palo Pinto lime formation of the lower Canyon series highlighted activity in the West Central Texas district in the first half of 1939. The Palo Pinto trend from the Ivy pool of southwestern Shackelford County and southwestward ward through the Avoca and Griffin pools of Jones through the Avoca and Griffin pools of Jones County received the greatest development given any trend since "boom" days some 20 years ago. As a result of this activity the Griffin pool, just outside the town of Avoca, which started the year with only three producing wells, now has 40 completions of which the majority are classed as 3,000-bbl. wells or better. There are almost 1,200 proven acres in the field and based on a Palo Pinto lime recovery figure of 11,000 bbl. per acre, there is a reserve of almost 13,000,000 bbl. in this single pool. The Ivy pool of Shackelford County has added seven wells during the past 6 months and now has a total of 640 proven acres with an estimated reserve of near 5,000,000 bbl. The Avoca pool, in Jones County and between the Ivy and Griffin pools, has an estimated reserve of more than 15,000,000 bbl. based on a recovery figure of 12,000 bbl. per acre. There has been an average of about two wells completed per week in these three fields during the past half year as well as extensive wildcatting along the trend farther to the southwest and in central Jones County.

Discoveries

Perhaps the two most significant discoveries of the half year were the Anzac pool in Coleman County and the Boyd pool in Stonewall County. Early in June Anzac Oil Corp. completed No. 4-C Morris Ranch, southeastern part of the David Breeding Survey, for 2,250 bbl. daily from the upper Strawn formations at 2,174-90 ft. The Anzac Corp. has carried on an exploration campaign on the Morris ranch for several years, the results having been the discovery of several small pools. The No. 4-C Morris was the largest of any of the wells drilled in that area.

Stonewall County's discovery was the Forest Development Corp. and Carl B. King Drilling Co. No. 1 Boyd, Section 45, Block D, H.&T.C. Survey. The well was drilled in May and after several attempts at production it was abandoned as unproductive. Passersby several weeks later noticed considerable oil spewed over the surrounding land and as a result the well was reworked by Helmerich & Payne Drilling Co. and completed as a pool opener with a gage of 188 bbl. daily from the Palo Pinto lime drilled from 4,690 ft. to 4,727 ft. Based on the oil recovery of the Palo Pinto producing formation, the discovery promises to be of considerable importance.

In Jones County

Jones County received two new producing spots, one a new field in the northwestern part of the county and the other a deep horizon for the old Guitar pool in the southeastern part of the county. The new pool opener was Gregg Oil Co. No. 1 E. D. Appling, southwestern quarter of Section 32, B.B.B.&C. Survey, 5 miles west and a mile south of the town of Stamford. It was completed for 28½ bbl. of oil per hour from the Swastika sand drilled from 2,832-35 ft. The area was discovered in March and as of the first of July there were two producing wells and six dry holes in the field. The Guitar field's deep horizon was opened in June by the T. D. Humphrey No. 2 Guitar, Section 44, Block 15, T.&P. Survey, on the northern edge of the field. It was completed for 40 bbl. daily at 2,139-52 ft., in the lower Hope lime.

New Pools in Callahan

Callahan County registered two pool discoveries, one which shows possibilities of development and the other merely a lone producer in an area scattered with lone producers. In January a 122-bbl. well was completed by Cooper, Roberts & Robertson in No. 2 Bowles, Section 281, B.A.L. Survey, on the Callahan and Taylor County line, to open the Bowles pool. Production is from the Cooke sand of the Cisco formation and as of the first of July there were two oil wells and a dry hole in the field.

The second Callahan County discovery was L. A. Warren and Kleiner No. 1 Cozart, M. Cherry Survey, near the Eastland County line and in the Cozart area,

WEST CENTRAL TEXAS

Daily Average and Monthly Production in First Six Months of 1939

County—	January (bbl.)	February (bbl.)	March (bbl.)	April (bbl.)	May (bbl.)	June (bbl.)	Ttl. 6 mos (bbl.)
BROWN:							
Daily average	1,605	1,598	1,625	1,559	1,606	1,602	
Month	49,748	44,738	50,386	46,772	49,780	48,056	289,480
CALLAHAN:							
Daily average	1,149	1,154	1,178	1,167	1,162	1,164	
Month	35,612	32,320	36,524	34,997	36,007	34,923	210,383
COLEMAN:							
Daily average	973	1,003	1,023	1,009	1,065	1,043	
Month	30,150	28,099	31,701	30,276	33,019	31,288	184,533
COMANCHE:							
Daily average	85	91	93	127	135	133	
Month	2,631	2,554	2,879	3,806	4,185	3,996	20,051
EASTLAND:							
Daily average	2,782	2,742	2,726	2,676	2,789	2,740	
Month	86,235	76,793	84,504	80,292	86,470	82,207	496,501
ERATH:							
Daily average	75	59	69	73	67	69	
Month	2,314	1,662	2,152	2,199	2,065	2,061	12,453
FISHER:							
Daily average	3,292	3,135	3,192	3,338	3,129	3,137	
Month	102,047	87,772	98,967	100,151	96,989	94,116	580,042
HASKELL:							
Daily average	113	107	99	96	89	88	
Month	3,500	2,982	3,058	2,867	2,744	2,643	17,794
JONES:							
Daily average	6,418	6,766	.....	.....	.....	.....	
Month	198,960	189,453	.....	.....	.....	.....	388,413
JONES:							
Avoca—							
Daily average	.....	.....	1,431	1,702	1,560	1,550	
Month	.....	.....	44,376	51,054	48,358	46,488	190,276
Griffin—							
Daily average	.....	.....	1,251	1,830	1,849	1,811	
Month	.....	.....	38,791	54,902	57,328	54,327	205,348
Hawley—							
Daily average	.....	.....	581	553	526	520	
Month	.....	.....	18,019	16,598	16,291	15,600	66,508
Appling—							
Daily average	.....	.....	58	83	89	84	
Month	.....	.....	1,800	2,500	2,744	2,516	9,560
Old pools—							
Daily average	.....	.....	4,144	4,359	4,114	4,210	
Month	.....	.....	128,461	130,760	127,522	126,314	513,057
Akard—							
Daily average	.....	.....	.....	.....	74	75	
Month	.....	.....	.....	.....	2,297	2,248	4,545
PALO PINTO:							
Daily average	344	331	342	337	332	330	
Month	10,666	9,274	10,606	10,101	10,305	9,911	60,863
SHACKELFORD:							
Daily average	5,747	5,643	5,889	6,060	5,901	5,891	
Month	178,148	158,012	182,554	181,802	182,947	176,725	1,060,188
STEPHENS:							
Daily average	3,532	3,558	3,497	3,637	3,634	3,616	
Month	109,476	99,615	108,399	109,109	112,643	108,480	647,722
STONEWALL:							
Daily average	48	51	116	105	151	149	
Month	1,473	1,424	3,592	3,138	4,687	4,472	18,786
TAYLOR:							
Daily average	143	93	108	123	127	126	
Month	4,448	2,615	3,363	3,704	3,933	3,780	21,843
THROCKMORTON:							
Daily average	287	285	284	289	309	304	
Month	8,910	7,976	8,797	8,664	9,570	9,125	53,042
Daily average	26,591	26,617	27,707	29,123	28,708	28,642	27,908
First 6 months 1939	824,318	745,289	858,929	873,692	889,884	859,276	5,051,388
First 6 months 1938	1,210,578	1,067,000	1,198,932	1,143,095	1,131,012	1,087,834	6,838,451
First 6 months 1937	1,030,593	992,761	1,139,200	1,116,447	1,183,185	1,172,721	6,634,907
First 6 months 1936	885,763	802,894	870,511	878,250	935,983	916,530	5,289,931
First 6 months 1935	904,766	778,204	905,758	862,290	908,889	875,220	5,235,127

EASTERN TEXAS DISCOVERIES FIRST HALF OF 1939

County, location, and discovery well—	Date	Depth	Gage	Formation	No. of wells	Name of pool	Remarks
Henderson—J. T. Childress Sur., 3½ miles NE. Flag Lake; Richards & Holloway and Tyler & Smith No. 1 Rowe & Baker	March	3,140-47		Woodbine sand	2	Mabank pool	
Leon—H. W. Subblett Sur., 4 miles NW. of Navarro Crossing field; Humble Oil & Ref. Co. No. 1 Smith	April	5,841½-42½	105 bbl./day	Woodbine sand	3	Leon extension area	Possible extension to Navarro Crossing pool, of Houston County, on the east

where several small producers have been drilled in the past 2 years. The discovery well was completed in April for 45 bbl. of oil per day from sand at 1,651-75 ft.

Stephens County registered a new Ellenburger (Lower Ordovician) pool in March when Lone Star Gas Co. completed No. 1 S. S. McKee, Section 39, Block 7, T.&P. Survey, for 268 bbl. of oil daily from 4,107-17 ft. The test was drilled in search of the Lake sand found productive in the Rich pool about ½ mile to the southeast. The Lake sand was missed and in drilling deeper the test found saturation at the present level.

Palo Pinto County received a new pool in March when J. W. Lane and W. D. Dilbeck completed No. 1 Dalton, Section 1789, T.E.&L. Survey, for 75 bbl. daily from the Strawn sand at 1,220-38 ft. The operators now have two producers completed and plan a steady development campaign for the area.

A new gas area was opened in Eastland County, a new oil area in Young County and a new oil area in Shackelford County to complete the 6 months' discoveries. None of these three fields is expected to show appreciable development over the next few months, the Young County discovery being one of many lone wells completed in the Graham area and the Shackelford County discovery being a small well from the relatively shallow King sand.

EASTERN TEXAS DISCOVERIES

Discoveries of two oil fields, one of which is rapidly proving to be a gas area, and an extension to the Navarro Crossing pool of Houston County, marked the results of wildcat exploration in the eastern Texas district in the first half of 1939. The prospective Navarro Crossing pool extension is the Leon County pool discovered in April by Humble Oil & Refining Co. No. 1 Swift, which was completed in the Woodbine sand at 5,841½-42½ ft. for 105 bbl. daily. There are three wells in the field at present, the latest completion having gaged 53,000,000 cu. ft. of gas daily.

Henderson County was given a new Mexia fault line field when Richards & Holloway and Tyler & Smith completed No. 1 Rowe & Baker, J. T. Childers Survey, 3½ miles northeast of the Flagg Lake field, for 15 bbl. per day, pumping. As of July 1 there were two completions in the field and one dry hole. The field closely resembles the Flag Lake field in that the sand body is thin and carries large amounts of gas and salt water. Wells are completed through perforations in casing, which is cemented below the salt water.

East Texas Field

The lowest point of drilling activity since its discovery was the record set by the great East Texas field during the past 6 months. With the change in the Texas Railroad Commission policy of granting permits for drilling in the field, comparatively few new wells were drilled in the half year. Some 75 to 80 completions had been recorded each week in the field for the past 6 or 7 years. Completions in the field have dropped to an average of about eight weekly and the field is about drilled up. Many wells have been taken off production and salt water disposal plants are being erected in several areas along the west side.

WEST CENTRAL AND NORTH TEXAS

Summary of Wells Completed First Half of 1939

County—	Comp.	Prod.	Dry	Gas
Archer	146	19,129	72	0
Baylor	5	235	4	0
Brown	45	246	31	4
Callahan	46	247	35	3
Clay	79	7,507	35	0
Coleman	24	2,744	16	0
Comanche	15	231	9	1
Cooke	62	9,517	28	0
Eastland	17	41	12	2
Erath	1	0	1	0
Fisher	3	0	3	0
Foard	2	361	1	0
Hardeman	1	72	0	0
Haskell	5	0	5	0
Jack	66	6,166	34	0
Jones	118	88,664	36	0
Mills	1	0	1	0
Montague	22	2,104	8	0
Palo Pinto	15	207	7	3
Parker	1	0	1	0
Shackelford	88	9,455	49	3
Stephens	7	339	3	0
Taylor	9	9	6	2
Throckmorton	3	0	3	0
Wichita	244	125,797	40	0
Wilbarger	26	4,691	8	0
Young	143	29,561	67	3
Total	1,194	307,323	515	21

Completions by Months

Month—	Comp.	Prod.	Dry	Gas
January	165	43,477	56	3
February	185	42,904	83	2
March	167	34,706	75	6
April	190	53,416	79	1
May	271	59,405	132	8
June	216	73,415	90	1
Total first half 1939	1,194	307,323	515	21
Total same period 1938	1,673	520,658	583	22
Difference	479	213,335	68	1

EASTERN TEXAS

Summary of Wells Completed First Half of 1939

County—	Comp.	Prod.	Dry	Gas
Anderson	15	593	2	6
Angelina	3	8	1	0
Camp	1	0	1	0
Cherokee	1	0	1	0
Collins	1	0	1	0
Falls	3	33	2	0
Franklin	11	2,504	1	0
Freestone	11	369	6	3
Grayson	5	8	4	0
Gregg	130	6,459	1	0
Henderson	9	456	4	1
Hill	1	0	1	0
Houston	14	933	4	2
Kaufman	4	0	4	0
Lamar	1	0	1	0
Leon	5	153	1	2
Limestone	3	0	3	0
McLennan	4	0	4	0
Morris	1	0	1	0
Nacogdoches	1	0	1	0
Navarro	3	0	2	1
Red River	2	0	2	0
Rusk	87	4,241	1	0
Smith	14	504	2	0
Titus	13	3,509	1	0
Trinity	2	0	2	0
Upshur	16	597	3	0
Van Zandt	3	0	3	0
Wood	1	0	1	0
Total	365	20,367	61	15

Completions by Months

Month—	Comp.	Prod.	Dry	Gas
January	116	6,154	12	1
February	61	3,857	4	4
March	33	1,295	11	1
April	39	2,331	14	1
May	65	3,239	12	6
June	51	3,491	8	2
Total first half 1939	365	20,367	61	15
Total same period 1938	1,222	73,836	93	13
Difference	857	53,469	32	2

EAST TEXAS

Daily Average and Monthly Production in First Six Months of 1939

	January (bbl.)	February (bbl.)	March (bbl.)	April (bbl.)	May (bbl.)	June (bbl.)	Ttl. 6 mos. (bbl.)
JOINER:							
Daily average	122,689	118,777	123,038	137,929	133,577	120,240	
Month	3,803,359	3,325,756	3,814,178	4,137,870	4,140,887	3,607,200	22,829,250
KILGORE:							
Daily average	117,705	113,952	118,040	132,326	128,151	115,355	
Month	3,648,855	3,190,656	3,659,240	3,969,780	3,972,681	3,460,650	21,901,862
LONGVIEW:							
Daily average	143,011	138,449	143,417	160,773	155,701	140,155	
Month	4,433,341	3,876,572	4,445,927	4,823,190	4,826,731	4,204,650	26,610,411
Daily average	383,405	371,178	384,495	431,028	417,429	375,750	394,152
First 6 months 1939	11,885,555	10,392,984	11,919,345	12,930,840	12,940,299	11,272,500	71,341,523
First 6 months 1938	14,165,719	11,839,671	13,440,409	12,973,723	11,543,936	10,914,010	74,877,468

EAST CENTRAL TEXAS

Daily Average and Monthly Production in First Six Months of 1939

	January (bbl.)	February (bbl.)	March (bbl.)	April (bbl.)	May (bbl.)	June (bbl.)	Ttl. 6 mos. (bbl.)
CORSICANA:							
Daily average	415	416	437	433	404	401	
Month	12,869	11,645	13,559	12,981	12,512	12,030	75,596
CURRIE:							
Daily average	107	100	110	109	101	99	
Month	3,332	2,803	3,396	3,284	3,341	2,970	19,126
FLAG LAKE:							
Daily average	543	566	581	489	453	449	
Month	16,847	15,860	18,002	14,660	14,051	13,470	92,890
MEXIA:							
Daily average	1,729	1,677	1,706	1,682	1,692	1,686	
Month	53,605	46,953	52,887	50,461	52,457	50,585	306,948
POWELL:							
Daily average	1,979	1,896	1,892	1,925	1,891	1,876	
Month	61,337	53,086	58,651	57,762	58,618	56,272	345,726
SULPHUR BLUFF:							
Daily average	4,604	4,432	4,607	5,143	4,184	4,066	
Month	142,714	124,107	142,827	154,286	129,689	121,975	815,598
VAN:							
Daily average	13,261	12,708	13,262	14,870	16,075	14,716	
Month	411,079	355,811	411,115	446,093	498,325	441,472	2,563,895
BOGGY CREEK:							
Daily average	288	249	276	175	305	300	
Month	8,925	6,985	8,544	8,256	9,466	9,007	51,183
CAYUGA:							
Daily average	3,431	5,681	7,795	8,782	9,164	9,615	
Month	106,349	159,061	241,651	263,470	284,085	288,450	1,343,066
LONG LAKE:							
Daily average	2,252	2,211	2,329	2,620	2,458	2,307	
Month	69,816	61,895	72,205	78,607	76,183	69,210	427,916
NAVARRO CROSSING:							
Daily average	287	412	519	678	552	540	
Month	8,901	11,550	16,093	20,335	17,120	16,212	90,211
RODESSA:							
Daily average	29,110	29,306	29,295	28,547	27,893	29,005	
Month	902,408	820,555	908,140	856,413	864,682	870,142	5,222,340
TALCO:							
Daily average	31,040	29,887	30,760	33,068	27,893	27,600	
Month	962,232	836,841	953,577	992,042	858,623	828,012	5,431,327
TRINITY:							
Daily average	557	559	572	640	445	445	
Month	17,274	15,651	17,730	19,211	13,786	13,355	97,007
MISCELLANEOUS:							
Daily average	650	580	615	672	575	565	
Month	20,136	16,233	19,059	20,148	17,826	16,962	110,364
Daily average	90,252	90,680	94,756	99,934	93,896	93,671	93,885
First 6 months 1939	2,797,824	2,539,036	2,937,436	2,998,009	2,910,764	2,810,124	16,993,193
First 6 months 1938	2,661,018	2,510,176	3,087,336	3,040,676	2,957,498	2,787,638	17,044,342
First 6 months 1937	3,269,687	3,057,810	3,760,600	3,531,526	3,900,811	3,782,195	21,302,629
First 6 months 1936	1,379,138	1,383,241	1,513,836	1,529,814	1,636,711	1,592,121	9,034,861

Miscellaneous pools and their production for the first 6 months of 1939 are: Bolivar, 1,638 bbl.; South Bosque, 1,590 bbl.; Buffalo, 7,995 bbl.; Collinsville, 6,140 bbl.; Lott, 4,234 bbl.; Negro Creek, 244 bbl.; Opelika, 4,201 bbl.; Pottsboro, 705 bbl.; Percilla, 2,898 bbl.; Potter, 16,306 bbl.; Rusk, 4,621 bbl.; Wascom, 11,041 bbl.; Nacogdoches, 1,529 bbl.; Rowe-Baker, 1,750 bbl.; Richland, 2,667 bbl.; Wortham, 13,744 bbl.; Ginter, 3,006 bbl.; Grapeland, 16,262 bbl.; Huntington, 1,374 bbl.; Lone Star, 4,573 bbl.; Panola, 3,846 bbl. Total, 110,364 bbl.

Semi-Annual Review

PENNA. GRADE PRODUCTION DECLINES; CRUDE STOCKS ALSO FALL

By J. P. O'DONNELL

Improvement predicted for the Pennsylvania Grade crude oil region in 1939 was realized to some degree during the first half of the year. This improvement was revealed in a slight reduction in stocks of crude oil, an increase of 5.8 per cent in shipments of bright stocks and neutrals and three advances in crude oil prices. Both production and runs to stills of Pennsylvania Grade crude dropped below the first half of last year and drilling was reduced by more than 25 per cent.

The improvement in the crude oil position and price occurred entirely during the first quarter, however, and developments in the second quarter tended to offset the gains in the first, making the outlook for the remainder of the year decidedly uncertain. As a result of conservative production during the first quarter, stocks of Pennsylvania crude, excluding those held on producers' leases, dropped from 5,443,000 bbl. at the beginning of the year to 5,227,000 bbl. on March 31. Production in excess of demand in the second quarter, however, lifted the level to an estimated 5,382,000 bbl. as of June 30, a decrease of only 61,000 bbl. for the 6 months.

The relation between daily average production and refinery demand in the first 6 months and its effect on stocks is shown in the following tabulation:

Month—	Dly. av. prod.	Dly. av. deliveries	Stocks
January	68,300	69,600	5,403,000
February	70,700	73,900	5,315,000
March	73,000	75,800	5,227,000
April	73,200	69,700	5,337,000
May	78,800	77,300	5,357,000
June*	74,100	73,250	5,382,000
Dly. av. 6 mos 1939	72,900	73,250	
Dly. av. 6 mos. 1938	78,600	74,600	
Difference	5,700	1,350	

*Estimated from A.P.I. and National Petroleum Association statistics. Other data from Bureau of Mines.

Total production of Pennsylvania Grade crude oil in the 6 months is estimated at 13,194,000 bbl. against actual production of 14,222,000 bbl. in the corresponding 1938 period, a decline of 1,008,000 bbl. or 7 per cent. The estimated total demand this year was 13,260,000 bbl. against actual demand of 13,511,000 bbl. a year ago. This was a drop of 251,000 bbl. or less than 2 per cent.

Maintenance of production within demand through the first quarter after a similar fourth quarter of 1938 resulted in three increases in the posted price of crude. Withdrawals in those 6 months exceeded 500,000 bbl. Advances were posted on January 21, February 1 and March 6. They totaled 32 cents per barrel in the Bradford, Allegany and Middle District fields, 31 cents in southwestern Pennsylvania and West Virginia fields, and 37 cents in southeastern Ohio fields. Despite these increases, prices in the first half were below those of the year before.

District—	1939	1938
Bradford-Allegany	$1.930	$2.079
Oil City-Titusville	1.860	2.016
Southwest Pennsylvania	1.580	1.746
West Virginia	1.580	1.686
Southeast Ohio	1.475	1.579

Drilling was curtailed substantially in 1939 as the accompanying table on completions shows. The waterflood Bradford and Allegany fields led in drilling but approximately 50 per cent of the reported completions in those fields are water-intake wells. Completions for the region as a whole totaled 1,771 against 2,440 in the first half of 1938, a drop of 669 or 27.5 per cent. Low as this total is it is expected it will be higher than the total for the last half because of the overproduction in the second quarter which has already been reflected in reduced drilling schedules in the Bradford field.

Completions in the first half of the year were featured by the opening of a possible Oriskany sand gas pool in Cameron Township, Steuben County, New York, and the resumption of drilling in the Music Mountain pool south of Bradford where some of the largest producing wells in the 80-year history of the Pennsylvania fields have been completed. Following the heavy overproduction in 1937, some wells in this pool were shut in for as long as 14 months. The first half of the year witnessed some small extensions to this pool and the completion of these wells accounted for the pronounced gain in initial production.

Neutral and bright stock prices failed to improve materially despite the 5.8 per cent increase in shipments of these two products over the first 5 months of 1938. This failure is attributed to failure of the increased demand to reflect itself in a corresponding improvement in inventory position though it was vastly better on May 31 this year than on the same date in 1938. A comparison of the inventory position of Pennsylvania bright stocks and neutrals on May 31, 1939; December 31, 1938, and May 31, 1938, follows (figures in gallons):

Date—	Bright stocks
May 31, 1939	15,578,976
December 31, 1938	16,122,052
May 31, 1938	22,929,318
	Neutrals
May 31, 1939	12,444,750
December 31, 1938	12,343,326
May 31, 1938	21,433,382

While the gain in combined shipments of these two major products of Pennsylvania refiners increased 5.8 per cent, it was accounted for almost entirely by neutrals, up to 12.8 per cent, whereas bright stock shipments were but 0.6 per cent above the first half of 1938. Comparative data on shipments calculated from National Petroleum Association reports, in the first 5 months of this year against the corresponding period of 1938 follow (figures in gallons):

Year—	Bright stocks	Neutrals
1939	38,959,552	32,462,838
1938	38,724,055	28,689,043
Difference	235,497	3,689,043

EASTERN FIELDS

Completions by Fields

Field—	Comp.	Prod.	Dry	Gas
Bradford	949	36,299	3	1
Allegany	231	285	0	0
Middle District	65	73	4	6
North Oriskany	51	0	28	23
Butler-Armstrong	26	75	9	1
Southwest Pennsylvania	63	47	14	44
Southeast Ohio	152	708	28	74
West Virginia	234	271	31	170
Total	1,771	37,758	117	319

Completions by Months

Month—	Comp.	Prod.	Dry	Gas
January	250	1,273	27	50
February	236	1,366	17	50
March	260	920	16	44
April	299	12,867	21	48
May	349	8,544	18	59
June	377	12,788	18	65
First half 1939	1,771	37,758	117	319
First half 1938	2,440	9,928	169	329
Difference	669	27,830	52	10

Open McClosky Pools in West Kentucky-Indiana

Western Kentucky had a number of field discoveries in the first 6 months of this year but none of them appears to be important in their relation to the production of the United States. The Breslin pool in Butler County and the Cane Run pool in Daviess were among the year's new fields. McClosky pay was opened in the old Utica pool in Henderson County. The Belton pool in Muhlenberg County, Thurston pool in Daviess County, Reed pool in Henderson County and Corydon pool in Henderson County were all McClosky lime pool discoveries and the McClosky pay was found in McLean County in the Livermore pool. The Handyville pool in Daviess County, a 1939 discovery, yielded production from the Chester series.

There were no discoveries in the old eastern Kentucky fields.

WESTERN KENTUCKY

Summary of Wells Completed First Half of 1939

County—	Comp.	Prod.	Dry	Gas
Breckenridge	8	3	5	0
Butler	23	251	13	0
Caldwell	1	0	1	0
Christian	3	0	3	0
Daviess	77	3,931	32	0
Grayson	2	0	1	1
Hancock	17	4	12	4
Henderson	25	2,286	14	2
Hopkins	5	240	3	1
McLean	12	253	8	1
Muhlenberg	12	510	6	0
Ohio	49	192	33	3
Union	2	0	2	0
Webster	2	0	0	2
Total	236	7,670	133	14

Completions by Months

Month—	Comp.	Prod.	Dry	Gas
January	36	971	26	1
February	24	1,196	9	3
March	48	853	30	4
April	30	2,078	15	0
May	42	1364	20	4
June	56	1,208	33	3
First half 1939	236	7,670	133	14
First half 1938	266	8,566	115	24
Difference	30	896	18	10

EASTERN KENTUCKY

Summary of Wells Completed First Half of 1939

County—	Comp.	Prod.	Dry	Gas
Powell	23	140	4	0
Lee	15	173	4	0
Knott	10	0	2	5
Floyd	21	38	1	10
Estill	2	10	0	0
Pike	15	0	2	13
Knox	2	0	0	2
Martin	5	14	0	3
Wolfe	3	0	3	0
Total	96	375	16	45

(Continued on Next Page)

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THE CHOICE OF EXPERIENCED DRILLERS

Completions by Months

Month—	Comp.	Prod.	Dry	Gas
January	9	43	1	4
February	14	46	3	8
March	13	16	2	7
April	13	110	2	5
May	20	77	5	7
June	27	83	3	14
First half 1939	96	375	16	45
First half 1938	143	1,421	16	45
Difference	47	1,046	0	0

INDIANA

The old southeastern Indiana oil region, opened 51 years ago in Vigo County, has had some revival this year. The Griffin pool opened on March 8 in Gibson County by Fitzpatrick & Hayes No. 1 Griffin in Section 13-3s-14w, stimulated a big leasing campaign already well under way. The Griffin discovery was drilled to McClosky lime to a total depth of 2,910 ft. and was permitted to produce only 4 hours the first day, during which it flowed 183 bbl., or at the rate of 1,098 bbl. per day.

The only other discovery of the half year was the New Harmony pool in Gibson County, opened by Superior Oil Co. of California No. 1 New Harmony Realty Co. in Section 10-5s-14w with a well that flowed 272 bbl. in 24 hours through 2½-in. tubing on choke from McClosky lime at a total depth of 2,985 ft.

INDIANA

Summary of Wells Completed First Half of 1939

County—	Comp.	Prod.	Dry	Gas
Blackford	1	0	1	0
Daviess	3	5	2	0
Dearborn	1	0	1	0
DuBois	2	0	2	0
Gibson	19	4,109	5	0
Knox	4	0	4	0
Martin	1	0	1	0
Monroe	1	0	1	0
Perry	3	0	2	1
Pike	6	0	2	4
Posey	12	750	5	0
Spencer	12	74	5	4
Sullivan	11	20	4	4
Vanderburgh	10	46	7	0
Vigo	4	75	1	0
Warrick	4	36	3	0
Clay	1	0	1	0
Madison	2	0	2	0
Shelby	2	0	0	2
Decatur	1	0	0	1
Jay	1	0	1	0
Owen	1	0	1	0
Total	102	5,115	52	16

Completions by Months

Month—	Comp.	Prod.	Dry	Gas
January	11	75	4	4
February	7	592	5	1
March	12	198	4	4
April	18	165	10	4
May	33	1,054	21	1
June	21	3,031	8	2
Total first half 1939	102	5,115	52	16
Total first half 1938	64	294	32	16
Difference	38	4,821	20	0

LIMA FIELD

Summary of Wells Completed First Half of 1939

County—	Comp.	Prod.	Dry	Gas
Adams	1	0	1	0
Allen	1	0	1	0
Auglaize	2	0	2	0
Brown	1	0	1	0
Greene	1	0	1	0
Hancock	1	0	1	0
Henry	1	2	0	0
Logan	1	0	0	1
Preble	1	0	1	0
Putnam	2	5	1	0
Seneca	4	8	2	0
Wood	0	0	0	0
Wyandot	2	0	2	0
Total	18	15	13	1

Completions by Months

Month—	Comp.	Prod.	Dry	Gas
January	4	0	3	1
February	0	0	0	0
March	5	2	4	0
April	2	2	1	0
May	4	6	3	0
June	3	5	2	0
First half 1939	18	15	13	1
First half 1938	16	209	3	5
Difference	2	194	10	4

CENTRAL AND SOUTHEASTERN OHIO

Summary of Wells Completed First Half of 1939

County—	Comp.	Prod.	Dry	Gas
Ashland	10	54	3	3
Athens	38	6	11	25
Belmont	1	0	1	0
Carroll	7	0	2	5
Columbiana	1	0	0	1
Coshocton	5	162	1	1
Cuyahoga	15	60	2	11
Fairfield	9	60	3	5
Gallia	1	0	0	1
Geauga	1	0	1	0
Guernsey	24	0	10	14
Harrison	2	0	2	0
Hocking	4	50	2	1
Holmes	13	12	5	8
Huron	1	0	1	0
Jackson	1	0	0	1
Jefferson	4	12	0	2
Knox	24	87	12	10
Lawrence	5	0	2	3
Licking	43	207	9	25
Lorain	7	20	3	3
Medina	23	200	9	6
Meigs	18	0	7	11
Monroe	15	5	3	10
Morgan	10	16	6	2
Muskingum	14	59	4	6
Noble	29	32	7	19
Perry	21	192	6	10
Richland	1	0	0	1
Stark	15	0	5	10
Summit	4	0	1	3
Tuscarawas	4	0	1	3
Vinton	1	0	1	0
Washington	42	57	12	19
Wayne	3	11	0	2
Total	416	1,302	132	221

Completions by Months

Month—	Comp.	Prod.	Dry	Gas
January	63	59	24	34
February	62	62	19	34
March	51	286	14	26
April	73	75	25	39
May	80	289	23	44
June	87	531	27	44
First half 1939	416	1,302	132	221
First half 1938	393	2,022	110	201
Difference	23	722	22	20

MISSOURI

The search for oil with the drill began in the Missouri sector of the Forest City basin March 7, 1939, when J. H. Everitt and others No. 1 Spring, SW SW SE Section 30-62-38w, at the north edge of Mound City in Holt County, was spudded.

The beginning of drilling in northwestern Missouri followed an intensive leasing campaign of several months. It was estimated that approximately 6,000,000 acres in the adjacent sectors of Missouri, Kansas, Nebraska and Iowa, comprising the basin, were leased by independent operators, small and large companies. The Forest City basin play was said to have been the biggest lease boom in the history of the petroleum industry in an area in which no oil had been found. The nearest production was in some old shallow pools south and southwest of Kansas City along the southern flank of the basin.

The Mound City test had not been completed by the end of June and there had been little definite knowledge regarding it, operators declining to reveal drilling information. Several showings of oil and gas unofficially were reported to have been found. Mechanical troubles had caused several delays and currently a fishing job was reported at total depth of 2,800 ft.

Soon after spudding of the Mound City wildcat, several other tests were started in northwestern and northern Missouri counties. In addition to those in or on the flanks of the Forest City basin, one wildcat was started in Shelby County, northeastern Missouri, and two in Bollinger and Butler counties, southeastern Missouri.

Of six failures recorded in the first half of 1939 only one in the basin proper went below 1,500 ft. This was Frank Hopper and others No. 1 Black, NW NW NW Section 36-52-32w, in the old Liberty gas area, Clay County. It found Arbuckle lime at 1,657 ft., had a hole full of water at 1,680 ft., total depth, and was abandoned. Small showings of oil and gas were reported in upper formations. Other failures included a 1,500-ft. test in northeastern Cass County, on the south flank of the basin; a 730-ft. test in southern Platte County, northwest of Kansas City; and three shallow tests, averaging around 450 ft. deep, in Johnson County and probably too far south to be in the basin.

Other operations in northern Missouri, either drilling wells or locations, including those in the following counties: Holt 2, Andrew 2, Buchanan 1, DeKalb 1, Clinton 1, Platte 2, Clay 2, Jackson 1, Ray 2, Mercer 1, Grundy 1, Livingston 1, Carroll 1, Putnam 1 (abandoned since June 30), Sullivan 2, Schuyler 1, Adair 1, Macon 7, Charlton 1. A well also was being drilled in Hickory County, far south of the basin, in Section 3-37-21w.

Several other locations have been chosen tentatively or are proposed but definite announcements have not been made.

The few failures that have been completed have not dimmed interest in the basin nor condemned its oil

(Continued on Page 169)

PIPE-LINE EXPANSION

(Continued from Page 71)

miles of 10-in., 11 miles of 12-in., and 14 miles of 16-in. from the Katy field to the Goodrich-Houston line.

Shell Pipe Line Co. constructed 33 miles of 6-in. from the Bennett-Wasson field to Hobbs, N. M.

Aloco Pipe Line Co. laid 30 miles of 6-in. from Yoakum and Gaines counties to the Atlantic line from Hobbs to Midland.

Burk Royalty Co. laid 3 miles of gathering lines in the Bryson field.

Humble Pipe Line Co. constructed 20 miles of line from Mildren, Navarro County, to serve the Flag Lake field in Henderson County.

Republic Pipe Line Co. laid a 6-in. line from the East White Point field to Corpus Christi.

Humble Pipe Line Co. laid 26 miles of 4-in. from the Navarro Crossing field, Houston County, to Fairfield, and 35 miles of gathering system from Throckmorton County to Albany, Shackelford County.

Sinclair Prairie built 65 miles of 6-in. from the K.M.A. field to Jacksboro.

South Plains Pipe Line Co., subsidiary of Motor Fuels Corp., laid a gathering system in Hockley and Cochran counties.

Sinclair Prairie laid a 15-mile line from the Walnut Bend field in Cooke County to Muenster.

Plains Pipe Line Co. completed a 4-in. line from the Slaughter field in Hockley County to Levelland.

Coffield & Guthrie, Inc., built 25 miles of 4-in. from the Sharon pool in Scurry County to Westbrook.

Texas-New Mexico Pipe Line Co. announced 16 miles of 5½-in. from Lovington, N. M., to Monument station.

Kansas

Texas-Empire Pipe Line Co. built 5 miles of 10-in. and 2 miles of 12-in. from Oil City to Valley Center.

Bay Petroleum Co. extended its line from the Anderson-Nordling area to the Roxbury pool in McPherson County.

Louisiana

Grady H. Vaughan laid 2¾ miles of 4-in. from the Magnolia field to Haynesville.

Standard Oil Co. of Louisiana constructed a 2-in. gathering system in Cotton Valley.

American Liberty Pipe Line Co. laid 2½ miles of 4-in. in the Rodessa area from Wiley to Simpson.

United Gas Pipe Line Co. built 50 miles of 12-in. from Lirette, Terrebonne Parish, to St. Rose, Jefferson Parish.

Lion Oil & Refining Co. laid 12 miles of 6-in. from El Dorado to Schuler, and extended 14 miles of 6-in. to the Kerlynn pool.

Standard Oil Co. of Louisiana reconditioned 40 miles of 8-in. from Buckner, Ark., to Hattiesville, La.

Hunt Oil Co. built 10 miles of 6-in. gas distillate line from the Bear Creek pool, Bienville Parish, to Driscoll.

Louisiana-Nevada Transit Co. planned a 75-mile 8⅝-in. gas line from Cotton Valley to Howard County.

Arkansas

Arkana Transit Corp. laid 9 miles of 3-in. from the Atlanta field, Columbia County, to Hassan station.

Lion Oil & Refining Co. extended 12 miles of 6-in. from the Magnolia field to the Constantine farm.

Mississippi

Union Production Co. was reported to be considering a $3,000,000 gas line from the Monroe field, Louisiana, to Jackson, Miss.

Michigan

American-Michigan Pipe Line Co. made survey for 30 miles of 4-in. gas line in Clare and Mecosta counties.

Northern Pipe Line Co. laid 55 miles of 6-in. from the Arenac field to Midland, Mich.

American-Michigan Pipe Line Co. built 35 miles of 8-in. from Austin Township, Mecosta County, to the Van Horn field.

Michigan Consolidated Co. laid 21 miles from Milan to Ann Arbor.

Michigan Gas Transmission Co. constructed two loops of 16.2 miles of 24 and 16-in. on its Indiana to Detroit gas line.

Kentucky

General Pipe Line Corp. proposed to lay 189 miles of gas line from Kentucky to Indiana.

Aetna Service Co. laid a 4-in. line from Birk City to

(Continued on Page 167)

LINK-BELT *Silverlink* STEEL ROLLER CHAIN
Drives New Bridgeport Pumping Unit

● Bridgeport Machine Company's new No. 6 Pumping Unit, which represents a good example of engineering advancement in design and development, includes a new and positive method of chain adjustment. It is a compact, rugged unit with a maximum stroke of 30 inches, has a polish rod load capacity of 6,000 pounds, and an A.P.I. peak torque rating of 38,400-inch pounds at 20 SPM. The horse-power rating of the unit is 7.75.

In keeping with the rest of their design, the manufacturer has selected Link-Belt Silverlink—the super finished steel roller chain, for these pumping units.

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Semi-Annual Review

ILLINOIS JOINS FIVE LEADING STATES IN PRODUCTION THIS YEAR

By SPECIAL CORRESPONDENTS

In Illinois the first 6 months of 1939 were spent mostly in proving and developing the discoveries of the preceding year with work being concentrated in the Salem field in Marion County and the Louden field in Fayette County. Development continued in the McClosky lime area in Richland, Clay and Wayne counties. A total of 1,638 tests were completed in the state.

As a result of this unprecedented amount of work, the producers in the state obtained 1,343 oil wells and 13 gas wells. Initial production of the oil wells averaged 390 bbl. per well. Three hundred and twenty-seven of the tests were dry and either limited the boundaries of the discovered fields or condemned wildcat structures. Very little wildcat work was done by the larger companies, most of them being occupied with development work.

From a daily average production of 126,100 bbl. at the beginning of the year, Illinois jumped to 236,815 bbl. by the end of June, an increase of 110,715 bbl., or nearly 80 per cent. Production for the 6 months' period was 32,706,846 bbl. with June production amounting to 7,004,850 bbl. The state was fifth in production in the first 6 months.

Discoveries of the year failed to uncover any fields which have indications of competing with the two major pools of the state. The Cordes pool in Washington County leads the discoveries and development in that area has been quite rapid. Discoveries in Cole and Shelby counties proved to be comparatively light producers and further drilling in the areas failed to uncover production. One pool in Wayne County justified considerable development but many believe it to be part of the Clay City pool which extends into Wayne from Clay County. Of the two other Wayne

ILLINOIS

Summary of Wells Completed First Half of 1939

County—	Comp.	Prod.	Dry	Gas
Adams	1	0	1	0
Bond	5	0	5	0
Champaign	1	0	1	0
Clark	6	35	4	0
Clay	110	41,002	12	0
Clinton	34	974	12	0
Coles	13	33	0	0
Crawford	4	6	3	0
Cumberland	6	0	6	0
Edgar	1	0	1	0
Edwards	4	0	4	0
Effingham	6	0	6	0
Fayette	512	109,134	35	2
Franklin	2	200	0	0
Fulton	2	0	2	0
Gallatin	9	130	8	0
Jackson	1	0	1	0
Jasper	4	0	4	0
Jefferson	30	2,707	17	0
Johnson	1	0	1	0
Lawrence	20	39	11	7
Macoupin	4	0	4	0
Madison	4	6	3	0
Marion	600	157,023	32	0
Menard	1	0	1	0
Montgomery	7	0	7	0
Platt	1	0	1	0
Randolph	3	0	3	0
Richland	38	3,077	5	0
Sagamon	2	0	2	0
Schuyler	1	0	1	0
St. Clair	21	1,071	3	0
Saline	3	0	3	0
Shelby	10	0	10	0
Tazewell	1	0	1	0
Wabash	9	128	7	0
Wayne	71	11,819	18	0
Washington	47	3,826	17	0
White	4	0	4	0
Perry	2	0	2	0
Christian	1	0	1	0
Hancock	2	3	1	0
Monroe	2	40	1	0
Macon	1	0	1	0
Greene	1	0	1	0
McDonough	2	7	1	0
Moultrie	1	0	1	0
Total first half 1939	1,611	333,260	274	9
Total first half 1938	524	122,620	106	4
Difference	1,087	210,640	168	5

Completions by Months

Month—	Comp.	Prod.	Dry	Gas
January	303	58,528	41	3
February	243	42,123	39	3
March	186	32,017	39	1
April	280	46,914	56	0
May	306	73,169	46	1
June	293	80,509	40	1
Total	1,611	333,260	274	9

ILLINOIS

Daily Average and Monthly Production in First Six Months of 1939

	January (bbl.)	February (bbl.)	March (bbl.)	April (bbl.)	May (bbl.)	June (bbl.)	Ttl. 6 mos. (bbl.)
ADEN:							
Daily average	148	152	160	160	160	158	
Month	4,588	4,256	4,960	4,805	4,961	4,741	28,311
ADEN, NORTH:							
Daily average	1,673	1,552	1,949	1,686	1,838	1,905	
Month	51,863	43,456	60,419	50,579	56,929	57,156	320,402
BARNHILL:							
Daily average	.....	.....	28	74	.....	.....	
Month	.....	.....	868	2,223	.....	.....	3,091
BOYLESTON:							
Daily average	15	55	.....	15	307	782	
Month	465	1,540	.....	456	9,525	23,458	35,444
CENTRALIA:							
Daily average	6,957	7,329	6,434	6,613	6,667	6,628	
Month	215,667	205,212	199,454	198,526	206,248	198,836	1,223,943
CISNE:							
Daily average	7,243	6,128	4,735	3,374	2,821	2,783	
Month	224,533	171,584	146,785	101,228	87,451	83,491	815,072
CLAY CITY:							
Daily average	15,350	13,095	14,579	17,654	19,492	20,794	
Month	475,850	366,642	451,949	529,691	604,476	607,541	3,036,149
CLAY CITY, WEST:							
Daily average	.....	.....	110	109	119	113	
Month	.....	.....	3,410	3,246	3,696	3,395	13,747
CORDES:							
Daily average	5	3	5	456	1,777	2,445	
Month	155	84	155	13,660	55,106	73,352	142,512
DIX:							
Daily average	1,278	1,914	1,958	2,023	2,151	2,874	
Month	39,618	53,592	60,698	60,680	66,690	86,223	367,501
ENTERPRISE:							
Daily average	.....	.....	65	822	1,517	1,906	
Month	.....	.....	205	24,653	47,037	57,183	129,078
FLORA:							
Daily average	387	421	428	383	329	316	
Month	11,997	11,340	13,268	11,441	10,226	9,481	67,753
FLORA, EAST:							
Daily average	42	40	38	24	55	58	
Month	1,302	1,120	1,178	721	1,695	1,746	7,762
INA:							
Daily average	18	10	22	16	23	19	
Month	558	280	682	474	700	572	3,266
IOLA:							
Daily average	.....	.....	.....	16	20	17	
Month	.....	.....	.....	485	620	507	1,612
LEECH:							
Daily average	143	132	101	119	153	148	
Month	4,433	3,696	3,131	3,555	4,755	4,443	24,013
LOUDEN:							
Daily average	26,768	29,440	32,395	38,455	44,060	41,417	
Month	829,815	824,317	1,004,245	1,153,659	1,365,864	1,242,518	6,420,418
MOUNT ERIE:							
Daily average	.....	.....	30	39	39	41	
Month	.....	.....	930	1,171	1,211	1,227	4,539
NOBLE:							
Daily average	3,426	2,903	2,781	2,377	2,315	2,263	
Month	106,206	81,284	86,211	71,326	71,819	67,896	484,742
NOBLE, NORTH:							
Daily average	768	1,074	1,032	1,513	2,155	2,307	
Month	23,808	30,072	31,992	45,391	66,830	69,214	267,307
NOBLE, SOUTH:							
Daily average	278	281	346	277	252	263	
Month	8,618	7,587	10,726	8,316	7,806	7,888	50,941
OLNEY:							
Daily average	1,132	1,287	1,081	915	887	873	
Month	35,092	36,036	33,511	27,486	27,508	26,176	185,809
OLNEY, SOUTH:							
Daily average	.....	.....	.....	.....	13	11	
Month	.....	.....	.....	.....	404	329	733
PATOKA:							
Daily average	1,018	1,069	1,043	1,455	1,477	1,482	
Month	31,558	29,932	32,333	43,763	45,772	44,456	227,814
RINARD:							
Daily average	.....	.....	.....	.....	.....	.....	
Month	.....	.....	.....	.....	.....	.....	.....
ROACHES:							
Daily average	.....	.....	.....	86	290	728	
Month	.....	.....	.....	2,653	8,959	22,138	33,750
SALEM:							
Daily average	62,703	77,781	86,296	88,848	117,471	134,699	
Month	1,949,993	2,183,468	2,684,693	2,671,449	3,647,801	4,010,774	17,117,978
SCHNELL:							
Daily average	193	164	178	147	162	167	
Month	5,983	4,592	5,518	4,418	5,014	5,014	30,539
STEWARDSON:							
Daily average	.....	.....	.....	8	23	41	
Month	.....	.....	.....	233	709	1,229	2,171
ST. JAMES:							
Daily average	742	946	952	941	1,045	1,157	
Month	23,002	26,488	29,512	28,172	32,434	34,711	174,319
TONTI:							
Daily average	.....	.....	.....	.....	99	438	
Month	.....	.....	.....	.....	3,069	13,143	16,212
OLD FIELDS:							
Daily average	7,657	8,063	7,863	7,980	7,978	8,200	
Month	237,367	225,764	243,753	239,400	247,318	246,012	1,439,620
Daily average	138,144	154,012	164,858	176,796	215,891	233,495	180,700
First 6 months 1939	4,282,471	4,312,342	5,110,586	5,303,866	6,692,633	7,004,850	32,706,748
First 6 months 1938	1,175,059	1,125,318	1,251,558	1,320,676	1,463,016	1,471,628	7,807,255

ILLINOIS DISCOVERIES FIRST HALF OF 1939

Field and county—	Company and farm name—	Location—	Total depth	Producing formation—	Initial production (bbl.)
Iola, Clay	Duncan No. 1 Liggett	SE NW SE 17-5n-5e	2,383	Aux Vases ss.	42
Mattoon, Coles	Wheeles & Whisenant No. 1 Michael	SW SW NW 1-11n-7e	1,919	Cypress ss.	18
Hutton, Coles	W. R. Miller No. 1 Giffin	SE NE NE 22-11n-10e	538	Pennsylvanian ss.	10
Junction, Gallatin	Coates and others No. 1-B Greene	SE SE SE 17-8s-9e	1,794	Waltersburg ss.	125
Tonti, Marion	Harvey and others No. 1 Mercantile Bank	C N NE SE 33-3n-2e	2,193	McClosky	157
Stewardson, Shelby	Aylward No. 1 Wabash R. R.	C N N 27-10n-5e	1,969	Aux Vases ss.	28
Cordes, Washington	Blankenship No. 1 Dennis	NE SW NE 14-3s-3w	1,239	Bethel ss.	25
Enterprise, Wayne	Witcher Drilling Co. No. 1 Fitch	C N SE SE 3-1n-8e	3,100	McClosky	194
Barnhill, Wayne	Robinson and others No. 1 Felix	SW SE SE 27-2s-8e	3,409	McClosky	400
Golden Gate, Wayne	New Penn Development Co. No. 1 Wagner	NW SW NE 30-2s-9e	3,441	McClosky	20
North Griffin, Wabash	Continental Oil Co. No. 1 Shultz	SE SE NW 30-2s-13w	2,492	Cypress	45 (5 min.)

discoveries, one has continued to be a one-well field while the other is quite isolated and has not been developed because of the lack of an outlet.

The Tonti pool in Section 33-3n-2e, Marion County, was the area's only discovery but many Illinois observers consider it a part of the Salem field and expect the two to come together eventually. The production is from the McClosky with the Aux Vases, Cypress, and Benoist unproductive. A new producing horizon was added when a Gallatin County well uncovered production in the Waltersburg sand at 1,794 ft.

Hopes that the Griffin pool in Indiana extended across the Wabash River led to an unusual amount of wildcat work in this area with one pool discovered in Wabash County. The prospecting work in the area also uncovered important gas production.

Marion County stepped in front of the limelight late last year and has continued to hold that position against all comers. The McClosky lime was known to be productive since the discovery, but wells drilled to this formation during the first half were responsible for the repeated breaking of the "largest well in the state" record. Late in May, two wells over 4,000 bbl. were completed in 1 week but the next week, W. G. McBride, Inc., hit a 6,000-bbl. producer on its No. 6 Lee. In the succeeding weeks, 5,000-bbl. wells were not uncommon.

The Menhall No. 1 Benoist, north of Sandoval, added weight to the belief that there is good Devonian lime production in Marion County when it was completed for 1,654 bbl. daily late in June. Four other tests started for the same horizon immediately. Late last year a Devonian well caused a flurry which later proved unjustified but the interest in the new discovery appears to merit attention.

Other major developments of the opening 6 months' period were the cut in the price of Illinois oil from $1.15 to $1.05 per barrel during the first week in June, simultaneous with the shattering of previous production records. The Sohio Corp., practically the only major purchaser of independently produced crude in the state, led in the price cut when it felt it was unjustified in maintaining the old price in the face of the large quantities of oil being sold under the market.

The pipe-line development in the state was also of prime importance with Illinois Pipe Line Co. enlarging its system approximately 25,000 bbl., Socony-Vacuum Oil Co. constructing a 10-in. line from East St. Louis to Lima, Ohio, Texas-Empire Co. installing a 10-in. line from Salem to Hayworth, and the Sohio Corp. purchasing the Tide Water line from Stoy, Ill., to the Pennsylvania line and the announcement that it would build a 10-in. line from Noble to Stoy. While the crude situation was unaffected, an important marketing factor is the new 8-in. gasoline line of Illana Pipe Line Co. from East St. Louis to Chicago and the conversion of the Shell Pipe Line Co. old crude line to a gasoline carrier between the same two points.

PIPE-LINE EXPANSION

(Continued from Page 164)

the Ohio River, and Crude Oil Purchasing Co. laid 19 miles of 3-in. from Birk City to the Green River.

New England

Socony-Vacuum Oil Co. announced plans to build a 6-in. gasoline line from Springfield, Mass., to Hartford, Conn., work to begin in the fall and be completed this year.

California

Only two additions were made in gas pipe lines. Late in May a joint connection was made out of the Delano gas field by Pacific Gas & Electric Co. and Southern California Gas Co., 14 miles of 8-in. and cost $125,000. In the north, Pacific Gas & Electric Co. is finishing a relatively short gas line which will provide Wheatland and the Gladding-McBean ceramic plant at Lincoln as well as Roseville with gas. This line may later be extended to Auburn, Grass Valley and Nevada City. The new line to Wheatland and surrounding section consists of 20 miles of 8-in. pipe and it is likely the projected addition will also be 8-in.

Canada

A delegation of Canadians visited England and one of Britons visited Canada to discuss Alberta pipe line outlets to Vancouver or to the head of the Great Lakes for transport to eastern Canadian points.

Royalite Co. announced a $263,000 improvement program for its Turner Valley-Calgary system.

Benedum & Trees of Pittsburgh, Pa., were reported interested in Turner Valley development with a possible line to Bella Coola, British Columbia.

Walter F. Thorn and others were projecting a 100-mile 8-in. gas line from the Lloydminster field.

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LINK-BELT *Vibrating* SCREEN

Canada's Potential Gain Held Back by Proration

By VICTOR LAURISTON

Official figures of crude and naphtha production from all Canadian fields were available for only the first 4 months of 1939, and these show a continued upward trend in production, though a largely increased potential in the main producing area of Turner Valley was offset by substantial proration. Comparative figures for the various provinces follow:

Province—	1938 Jan.-Apr. (bbl.)	1939 Jan.-Apr. (bbl.)
New Brunswick	3,505	1,447
Ontario	51,424	63,542
Alberta	1,760,756	1,766,033
Total	1,815,685	1,831,022

Natural-gas production commercially marketed from all Canadian fields in the same period was 14,140,495,000 cu. ft. in 1938 and 15,102,911,000 cu. ft. in 1939.

Turner Valley

As in previous years, the major producing area of the dominion is the Turner Valley field in Alberta. Here, in spite of proration measures, pipe-line runs showed a net increase. The comparative figures for the first 5 months follow:

Month—	1938 (bbl.)	1939 (bbl.)
January	395,639	459,902
February	361,955	317,073
March	406,644	334,155
April	379,213	513,907
May	448,363	638,994
Total 5 months	1,991,814	2,264,031

The reduced production in the winter months was due solely to decreased allowable. An aggregate allowable for the field of 12,500 bbl. a day, effective from December 5, 1938, continued till February 1, 1939, when it was further cut to 10,000 bbl. On April 1 it was stepped up to 17,500 bbl.; May 2, 19,500 bbl.; May 16, 22,500 bbl.; May 23, 25,000 bbl.; June 13, 27,000 bbl. Conservation measures throughout the field resulted in a steady improvement in the gas-oil ratio and a marked reduction in the waste of gas.

Operations in the west-flank crude area during the first 6 months of 1939 showed 16 wells, all producers, completed in the deep lime; bringing the total of crude-oil producers to 75, with an estimated potential over 60,000 bbl. a day through 1-in. choke. This total did not include several wells still waiting for final official tests. At the end of June 4 other tests were drilling in the lime, with completion expected in the next few weeks; 14 were drilling above the lime; and several more were rigging.

Perhaps the most noteworthy development was the completion of Home Oil Co. No. 2 Millarville, LSD 6, Section 33-20-3w5, which definitely proved the west-flank crude area in an important northwest extension of North Turner Valley. With initial production rated 2,214 bbl. a day through 1-in. choke, Home No. 2 proved one of the largest wells in the field and has led to new activity in the northern area.

South and west of the proven field, Royalite Oil Co. No. 38, LSD 16, Section 8-18-2w5, finished at 7,494 ft., developed a flush of around 4,000 bbl., with 2,600 bbl. a day through 1-in. choke. Operations in the south area had been slowed down by discovery of some faulting in National Petroleum Corp. No. 2, a little farther east, but Royalite showed normal lime conditions to the west and south and opened the way for new development in those directions.

West of the main field Okalta Oil Co. No. 6, LSD 3, Section 30-18-2w5, which last year got salt water and oil in the lower porous zone of the Madison at 10,209 ft., was plugged back to 9,994 ft. for a test, still unfinished, of the upper porous zone, where a fair commercial production is indicated.

In West Central Turner Valley, East Crest Oil Co. No. 4, LSD 8, Section 6-19-2w5, west and a little south of the nearest producer, finished at 8,040 ft., with a fair crude production.

A noteworthy feature was the gradual extension of drilling north and west of the original South Turner Valley crude area. The most northerly active test is now Argus Royalties No. 1, LSD 14, Section 25-19-3w5, almost midway between the most northerly producer in the south area and the most southerly producer in North Turner Valley. This test will help to prove whether or not the crude production on the west flank is continuous.

Alberta Operations

Production for the various Alberta fields for the January-May period of 1938 and 1939 follows:

Field—	1938 Jan.-May (bbl.)	1939 Jan. May (bbl.)
Turner Valley limestone crude	2,284,197	2,275,051
Turner Valley limestone gas wells		160,871
Turner Valley shallow crude	3,651	3,699
Red Coulee light crude	5,878	5,663
Wainwright heavy crude	7,275	5,424
Lloydminster heavy crude	.....	348
Taber medium crude	5,858	3,720
Steveville light crude	.....	432
Moose dome light crude	616	891
Total	2,307,475	2,456,099

The most notable development in Alberta outside Turner Valley has been the finding of light crude accom-

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panied by heavy gas flows in the Steveville area, about 130 miles east of Calgary. Anglo-Canadian Oil Co. No. 1, LSD 2, Section 13-21-12w4, and Anglo-Canadian No. 2, LSD 4, Section 14-20-11w4, both found the lime around 3,200 ft., with good showings at the contact; and though water trouble developed, the area is regarded as promising enough to justify a third test, while systematic testing of various horizons is being undertaken in the two wells already drilled. An important new gas field is indicated.

In the Alberta end of the Lloydminster field, Lloydminster Royalties No. 1, LSD 4, Section 36-49-1w4, got a fair commercial production of heavy crude, estimated 100 bbl. a day, at 1,922 ft. In the Vermilion area, East Central Alberta, Wain Town Gas & Oil Co. No. 1, LSD 16, Section 26-50-7w4, finished a commercial gasser at 2,345 ft.

On the Bridge dome structure, southern Alberta, Anglo-Canadian Oil Co. No. 1, LSD 10, Section 4-2-13w4, was abandoned at 2,482 ft., encountering water in the limestone. East of Turner Valley, Anglo-Canadian No. 1, LSD 7, Section 16-21-28w4, on the Twin dome structure, got the Madison at 6,651 ft. but was abandoned at 7,151 ft.

Several new areas in the foothills are being tested, though so far without conclusive results. The most noteworthy development undertaken is in the Pouce Coupe area, in the northern foothills west of Peace River, where Benedum & Trees have taken over more than 160,000 acres for systematic development.

Ontario Operations

Probably the most important development in the southwestern Ontario fields has been the opening of a new gas field in Malahide Township, Elgin County, by the Union Gas Co., which has secured gas production in three wells and is continuing systematic development. The same company is operating extensively in the Haldimand-Norfolk area and is wildcatting in the Delaware area in Middlesex-Elgin and the Tilbury Town and Chatham Township areas in Kent, in addition to continuing its development of the Dawn field in Lambton. Shallow drilling for oil is continuing in the Warwick field, Lambton County, which is maintaining shipments of about 3,000 bbl. a month.

Missouri Fields

(Continued from Page 164)

possibilities. It was to be expected that in such a rank wildcat territory numerous dry holes would be drilled, and many more failures will be completed. Some of the wildcats may find important oil, however, and when they do a considerable boom will likely follow. Many geologists and oil men are confident that somewhere in the basin profitable production will be found.

Several wildcats have been started and locations staked for others in the Kansas sector of the basin. A shallow Bartlesville sand pool has been opened in Johnson County, Kansas, on the south flank of the basin. One wildcat is being drilled in Cass County, Nebraska sector of the basin.

MISSOURI

Summary of Wells Completed First Half of 1939

County—	Comp.	Prod.	Dry	Gas
Cass	1	0	1	0
Clay	1	0	1	0
Johnson	3	0	3	0
Platte	1	0	1	0
Total	6	0	6	0

Completions by Months

Month—	Comp.	Prod.	Dry	Gas
May	3	0	3	0
June	3	0	3	0
Total	6	0	6	0

Results of Wildcat Drilling

County—	Oil and gas wells	Dry holes	Av. depth of dry holes
Cass	0	1	1,500
Clay	0	1	1,680
Johnson	0	*3	454
Platte	0	1	730
Total	0	6	

*Test wells.

Average depth of dry holes, feet	879
Percentage of dry holes	100

NEBRASKA

Summary of Wells Completed First Half of 1939

County—	Comp.	Prod.	Dry	Gas
Adams	*1	0	1	0
Total	1	0	1	0

*Completed in February.

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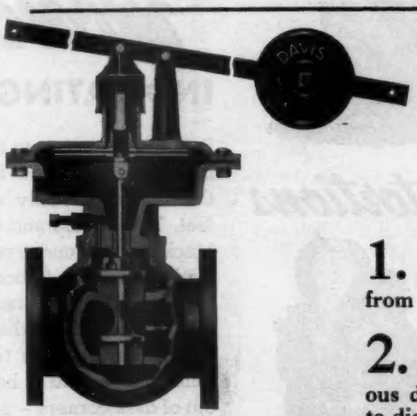

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Crude Price Changes, First Six Months, 1939

OKLAHOMA AND KANSAS

	Jan. 1 Schedule 1	Jan. 1 Schedule 2
20-20.9	$.60	$.70
21-21.9	.63	.72
22-22.9	.66	.74
23-23.9	.69	.76
24-24.9	.72	.78
Below 25	...	...
25-25.9	.75	.80
26-26.9	.78	.82
27-27.9	.81	.84
28-28.9	.84	.86
29-29.9	.87	.88
Below 30	...	...
30-30.9	.90	.90
31-31.9	.92	.92
32-32.9	.94	.94
33-33.9	.96	.96
34-34.9	.98	.98
Below 35	...	...
35-35.9	1.00	1.00
36-36.9	1.02	1.02
37-37.9	1.04	1.04
38-38.9	1.06	1.06
39-39.9	1.08	1.08
40 and over	1.10	1.10

Schedule 1—Magnolia Petroleum Co. adopted by Shell Oil Co., Inc., April 1.

Schedule 2—Standard Oil Co. of Indiana. Sinclair Prairie Oil Marketing Co. schedule January 1, starting at 21-gravity, 60 cents, with a 3-cent spread to 30-30.9° at 90 cents, then a 2-cent spread to 40° and over at $1.10. Effective February 16, Sinclair Prairie posted 25-25.9° at 58 cents, with 5 cents added for each degree up to and including 29-29.9° at 78 cents; then 4 cents added for each degree up to and including 32-32.9° at 90 cents; 33-33.9° was posted at 96 cents, with 2 cents added for each degree up to 40° and over at $1.10. Gulf Oil Corp. schedule starts at below 25°, 78 cents, with 2-cent differential up to $1.10 for 40° and over. Shell Oil Co. schedule same as Gulf until April 1. Texas Co. schedule starts at 28-28.9°, 86 cents, with top of $1.10 for 40° and over. Pure Oil Co. same as Standard of Indiana.

Red River pool, Tillman County, Oklahoma, and Burkburnett pool, Wichita County, Texas: Bell Oil & Gas Co. January 3, posted 67 cents for 28-28.9°, with 2 cents differential to 40° and over, 91 cents. This was 19 cents lower than generally posted price in Oklahoma and 12 cents below North Texas prices. On February 10 Bell posted 71 cents for 28-28.9°, with 2-cent differential to 97 cents for 40° and over. On March 13 Bell advanced to 75 cents for 28-28.9° and $1.01 for 40° and over. April 1, Bell posted 79 cents for 28-28.9° and $1.03 for 40° and over.

ALTUS AND TIPTON, OKLA.

Altus and Tipton, Oklahoma, starting at below 25° at 71 cents, 2-cent spread to 40° and above $1.03.

BEAUMONT AND WEST BEAUMONT, TEX.

Gravity:	Jan. 1
19-19.9	$.79
20-20.9	.82
21-21.9	.85
22-22.9	.88
23-23.9	.91
24-24.9	.94
Below 25	...
25-25.9	.97
26-26.9	1.00
27-27.9	1.02
28-28.9	1.04
29-29.9	1.06
Below 30	...
30-30.9	1.08
31-31.9	1.10
32-32.9	1.12
33-33.9	1.14
34-34.9	1.16
Below 35	...
35-35.9	1.18
36-36.9	1.20
37-37.9	1.22
38-38.9	1.24
39-39.9	1.26
40 and over	1.28

Standard Oil & Gas Co. in West Beaumont, and Magnolia Petroleum Co. in Beaumont field.

GRAY COUNTY, TEX.

Gravity:	Jan. 1
28-28.9	$.72
29-29.9	.74
30-30.9	.76
31-31.9	.78
32-32.9	.80
33-33.9	.82
34-34.9	.84
Below 35	...
35-35.9	.86
36-36.9	.88
37-37.9	.90
38-38.9	.92
39-39.9	.94
40 and over	.96

Humble Oil & Refining Co., Sinclair Prairie Oil Marketing Co., Texas Co. quotes "Panhandle sweet crude," beginning with 34-34.9°, at 84 cents, with 2-cent spread to 40° and over at 96 cents, and "Panhandle sour crude," 79 cents for 34-34.9°, with a top of 91 cents for 40° and over. Magnolia Petroleum Co. met Humble prices throughout. Gulf Refining Co. quotes "Panhandle sweet crude" at below 29°, 72 cents with a 2-cent spread, and a top price of 96 cents for 40° and above, and "Panhandle sour crude" below 29°, 67 cents, with a top of 91 cents for 40° and above. Phillips Petroleum Co. schedule for sweet crude in Gray, Carson, and Hutchinson counties, starts at below 29°, 72 cents, with a spread of 2 cents up to 96 cents for 40° and over, February 7, 1939.

WEST TEXAS

Gravity:	Jan. 1
Pecos County*	$.78
Pecos shallow†	.65

*Shell Petroleum Corp., Gulf Pipe Line

(Continued on Next Page)

PENNSYLVANIA GRADE OIL

	Jan. 1	Jan. 21	Feb. 1	Mar. 6
Posted by Tide Water Associated Oil Co. and New York Transit Co.:				
Bradford, Pa.	$1.68	$1.80	....	$2.00
Allegany, N. Y.	1.68	1.80	....	2.00
Posted by South Penn Oil Co.:				
Pennsylvania Grade oil in National Transit lines (Bradford field)	1.68	1.80	$1.88	2.00
Pennsylvania Grade oil in Southwest Pennsylvania lines	1.34	1.43	1.53	1.65
Pennsylvania Grade oil in Eureka Pipe Lines lines	1.28	1.37	1.47	1.59
Pennsylvania Grade oil in Buckeye Pipe Line lines	1.18	1.30	1.45	1.55
Corning Grade oil in Buckeye Pipe Line Co. lines	.97	....	....	....
Posted by Pennzoil Co.:				
Pennsylvania Grade oil in National Transit lines:				
Group A	1.61	1.73	1.83	1.95
Includes Cochran, Franklin, Hamilton, and Doolittle districts.				
Group B	1.60	1.72	1.82	1.94
Includes Titusville district.				
Group C	1.50	1.71	1.81	1.93
Includes Turkey and Tidioute districts.				
Group D	1.58	1.70	1.80	1.92
Includes Bear Creek and Porkey districts.				
Group E	1.56	1.68	1.78	1.90
Includes Eldeneau, Bull Creek, Rough Run, Carbon, Dipner, Bredin, McJunkin, Jameson, Kenerdell, Emlenton, Tiona, Lacy, and Kinzau districts. Price depends on length of pipe line to plant at Oil City.				
Posted by Pure Oil Co.:				
Cabin Creek, W. Va.	1.28	1.37	1.47	1.59
Bradford Hollow, W. Va.	1.28	1.37	1.47	1.59
Kelly Creek, W. Va.	1.28	1.37	1.47	1.59

CALIFORNIA CRUDE OIL PRICES IN 1939

Gravity—	Richfield Jan. 1	Santa Fe Springs Jan. 1	Montebello Jan. 1	Athens, Rosecrans Jan. 1	Mountain View Jan. 1	Elwood Terrace Jan. 1	Beiridge‡ Jan. 1	El Segundo Jan. 1	Kettleman Hills Jan. 1
14-14.9	$.76	...	$.77	...	...	...	$.70	$.80	...
15-15.9	.76	...	.77	...	...	...	.70	.80	...
16-16.9	.76	...	.77	...	...	...	.70	.80	...
17-17.9	.76	...	.77	...	...	...	.70	.80	...
18-18.9	.76	...	.77	...	...	...	.70	.80	...
19-19.9	.76	...	.77	...	$.70	...	.74	.82	...
20-20.9	.78	...	.77	...	.70	...	.78	.85	...
21-21.9	.80	$.78	.77	...	.73	...	.82	.88	...
22-22.9	.84	.78	.79	...	.77	...	.86	.92	...
23-23.9	.88	.78	.82	$.84	.80	...	.90	.95	...
24-24.9	.91	.82	.85	.88	.84	...	.94	.99	...
25-25.9	.95	.86	.89	.93	.88	...	.98	1.03	...
26-26.9	.98	.90	.92	.98	.91	...	1.02	1.06	...
27-27.9	1.02	.95	.96	1.03	.95	F.O.B.	1.06	1.10	...
28-28.9	1.06	.99	.99	1.07	.99	ship	1.10	1.14	...
29-29.9	1.09	1.03	1.03	1.12	1.02	...	1.14	1.17	...
30-30.9	...	1.08	1.07	1.17	1.06	...	1.18	1.21	...
31-31.9	...	1.12	1.11	1.22	1.09	...	1.20	...	...
32-32.9	...	1.16	1.14	1.27	1.13	...	1.22	...	...
33-33.9	...	1.20	1.18	1.32	1.17	$1.28	1.24	...	$1.19
34-34.9	...	1.25	1.22	1.37	1.20	1.32	1.26	...	1.23
35-35.9	...	1.29	1.25	1.42	...	1.35	1.28	...	1.27
36-36.9	...	1.33	1.29	1.46	...	1.39	1.30	...	1.31
37-37.9	...	1.37	1.32	1.51	...	1.43	1.32	...	1.35
38-38.9	...	1.42	1.36	1.56	...	...	...	...	1.39
39-39.9	...	...	1.40	1.61	...	...	...	...	1.43
40-40.9	...	...	1.43	1.66	...	...	...	...	...

Gravity—	West Coyote Hills Jan. 1	Buena Vista Hills, Midway-Sunset, Lakeview area, Elk Hills Jan. 1	Lost Hills† Jan. 1	Alamitos Heights Jan. 1	Whittier, La Habra Jan. 1	Rincon* Jan. 1	Dominguez Jan. 1	Wheeler Ridge Jan. 1	Coalinga Jan. 1
14-14.9	$.78	$.70	$.70	$.74	$.76	...	...	...	$.70
15-15.9	.78	.70	.70	.74	.76	...	...	...	.70
16-16.9	.78	.70	.70	.74	.76	...	...	...	.70
17-17.9	.78	.70	.70	.74	.76	...	...	...	.70
18-18.9	.78	.70	.70	.74	.76	...	...	...	.70
19-19.9	.78	.74	.74	.74	.78	...	...	$.70	.71
20-20.9	.80	.78	.78	.74	.82	...	...	.70	.72
21-21.9	.84	.82	.82	.74	.85	...	...	.70	.74
22-22.9	.88	.87	.86	.74	.89	$.69	...	.72	.78
23-23.9	.92	.92	.90	.77	.93	.71	$.79	.76	.82
24-24.9	.96	.97	.94	.80	.96	.73	.81	.79	.86
25-25.9	1.00	1.01	.98	.82	...	.75	.83	.83	.90
26-26.9	1.03	1.06	1.02	.85	...	.77	.86	...	...
27-27.9	1.06	1.10	1.06	.88	...	.79	.88	...	...
28-28.9	1.10	1.15	1.10	.90	...	.81	.90	...	...
29-29.9	1.14	1.20	1.14	.93	...	.83	.93	...	...
30-30.9	1.17	1.25	1.18	.95	...	.85	.95	...	...
31-31.9	1.21	1.29	...	...	...	...	.97	...	...
32-32.9	1.25	1.34	...	...	...	...	1.00	...	...
33-33.9	1.28	1.38	...	...	...	...	...	...	...
34-34.9	1.32	...	...	...	...	...	...	...	...

Gravity—	Torrance Jan. 1	Seal Beach Jan. 1	Huntington Beach Jan. 1	Inglewood Jan. 1	Signal Hill Jan. 1	Santa Paula† Jan. 1	Orcutt‡ Jan. 1	Wilmington Jan. 1	Playa Del Rey Jan. 1
14-14.9	$.80	$.79	$.78	$.79	$.80	$.70	...	$.75	$.80
15-15.9	.80	.79	.78	.79	.80	.70	...	.75	.80
16-16.9	.80	.79	.78	.79	.80	.70	$.70	.75	.80
17-17.9	.80	.79	.78	.81	.80	.71	.70	.77	.80
18-18.9	.82	.79	.78	.84	.80	.73	.72	.79	.80
19-19.9	.85	.79	.82	.87	.82	.75	.74	.82	.84
20-20.9	.88	.79	.85	.90	.85	.77	.77	.85	.88
21-21.9	.91	.79	.89	.93	.88	.79	.80	.88	.93
22-22.9	.93	.82	.92	.96	.92	.82	.83	.92	.98
23-23.9	.96	.86	.96	.99	.95	.85	.86	.95	1.02
24-24.9	.99	.91	1.00	1.02	.99	.87	.88	.99	1.06
25-25.9	1.02	.95	1.03	1.05	1.03	.90	.91	1.03	1.11
26-26.9	1.05	1.00	1.07	1.09	1.06	.92	.93	1.06	1.16
27-27.9	...	1.05	1.11	1.12	1.10	.95	...	1.10	...
28-28.9	...	1.10	1.14	1.15	1.14	.97	...	1.14	...
29-29.9	...	1.15	1.18	1.18	1.17	.99	...	1.17	F.O.B.
30-30.9	...	1.19	1.22	1.21	1.21	1.01	...	1.21	pipe line
31-31.9	...	...	...	1.24	...	...	...	...	...
32-32.9	...	...	...	1.27	...	...	...	...	...
33-33.9	...	...	...	...	...	...	...	...	...

*Posted by General Petroleum Corp. of California. †Union Oil Co.'s Brea Canyon schedule stops at $1.14 for 28° and over, and Lost Hills schedule stops at $1.32 for 37° and over. ‡Posted by Union Oil Co. Effective December 22, 1937, Standard Oil Co. of California posted the following price schedule in the Greeley and Canal fields: 84 cents for 27 gravity to $1.64 for 48 gravity and above. Newhall, McKittrick, Kern River, Kern Front and Rount Mountain unchanged at flat price of 70 cents. Kettleman Hills, Olinda, Brea Canyon, Ventura Avenue and Playa Del Rey also unchanged.

Co., and Humble Oil & Refining Co. †Shell Petroleum Corp.

REFUGIO, GRETA, SAXET AND TAFT COUNTIES, TEX.

Gravity:	Jan. 1
Below 20	$.79
20-20.9	.82
21-21.9	.85
22-22.9	.88
23-23.9	.91
24-24.9	.94
25-25.9	.97
26-26.9	1.00
27-27.9	1.02
28-28.9	1.04
29-29.9	1.06
30-30.9	1.08
31-31.9	1.10
32-32.9	1.12
33-33.9	1.14
34-34.9	1.16
35-35.9	1.18
36-36.9	1.20
37-37.9	1.22
38-38.9	1.24
39-39.9	1.26
40 and above	
40-40.9	1.28

Humble Oil & Refining Co., Texas Co. starting at below 21° at 81 cents and stopping at 28° and above at $1.04.

CARSON AND HUTCHINSON COUNTIES, TEX.

Gravity:	Jan. 1
28-28.9	$.67
29-29.9	.69
30-30.9	.71
31-31.9	.73
32-32.9	.75
33-33.9	.77
34-34.9	.79
Below 35	
35-35.9	.81
36-36.9	.83
37-37.9	.85
38-38.9	.87
39-39.9	.89
40 and over	.91

Humble Oil & Refining Co., Sinclair Prairie Oil Marketing Co., Texas Co. quotes "Panhandle sweet crude" at 34-34.9°, 84 cents, with a top of 96 cents for 40°, and "Panhandle sour crude" at 34-34.9°, 79 cents, with a top of 91 cents for 40° and over. Gulf Refining Co. quotes "Panhandle sweet crude" at below 29°, 72 cents, with a top of 96 cents for 40° and over and "Panhandle sour crude" at below 29°, 67 cents, with a top of 91 cents for 40° and above. Phillips Petroleum Co. schedule for sour crude in Carson, Moore, and Hutchinson counties, starts at below 29° at 67 cents, with a spread of 2 cents up to 91 cents for 40° and over, effective February 7. 1939.

EAST CENTRAL TEXAS
(Mexia District)

Gravity:	Jan. 1
23-23.9	$.78
24-24.9	.80
25-25.9	.82
26-26.9	.84
27-27.9	.86
28-28.9	.88
Below 29	
29-29.9	.90
30-30.9	.92
31-31.9	.94
32-32.9	.96
33-33.9	.98
34-34.9	1.00
35-35.9	1.02
36-36.9	1.04
37-37.9	1.06
38-38.9	1.08
39-39.9	1.10
40 and over	1.12

Humble Oil & Refining Co.

GOVERNMENT WELLS, TEX.

Gravity:	Jan. 1
20-20.9	$.77
21-21.9	.80
22-22.9	.83
23-23.9	.86
24-24.9	.89

VAN, TEX.

	Jan. 1
Van, Texas	$.93

TALCO

	Jan. 1
Talco field	$.55

CENTRAL AND NORTH TEXAS

Gravity:	Jan. 1
24-24.9	$.71
25-25.9	.73
26-26.9	.75
27-27.9	.77
28-28.9	.79
Below 29	
29-29.9	.81
30-30.9	.83
31-31.9	.85
32-32.9	.87
34-34.9	.89
34-34.9	.91
35-35.9	.93
36-36.9	.95
37-37.9	.97
38-38.9	.99
39-39.9	1.01
40 and over	1.03

Humble Oil & Refining Co. in Central Texas, Magnolia Petroleum Co. schedule in North and Central Texas, same as the Humble, excepting that it starts at below 29° at 79 cents. Texas Co. schedule in North and Central Texas, same as Magnolia. Gulf Refining Co. same as Texas Co. Sinclair Prairie Oil Marketing Co., in Mexia and North Central Texas, below 29°, 76 cents, with 2 cents added for each degree up to and including 40° and over at $1. Stanolind Oil Purchasing Co. schedule below 21°, 60 cents with a 2-cent spread to 40° and over at $1.

ANAHUAC, DICKINSON, MIRANDO AND DUVAL, TEX.

Gravity:	Jan. 1
Below 20	$.74
20	.77
21	.80
22	.83
23	.86
24	.89
25	.92
26	.95
28	.97
27-27.9	.99
28-28.9	1.01
29-29.9	1.03
30-30.9	1.05
31-31.9	1.07
32-32.9	1.09
33-33.9	1.11
34-34.9	1.13
35-35.9	1.15
36-36.9	1.17
36-36.9	1.19
37-37.9	1.21
39-39.9	1.23

Gulf Refining Co. in Anahuac, Humble Oil & Refining Co. in Anahuac, Dick-

(Continued on Next Page)

CRUDE PRICES MIDDLE WESTERN STATES

	Jan. 1	Jan. 6	Mar. 15	Apr. 12	Apr. 16	Apr. 18	Apr. 20	Apr. 27	June 8	June 9	June 19
Lima	$0.90	....	....	....	....	....	....	....	....	....	....
Illinois	1.05	....	....	....	....	....	....	....	$0.95	....	....
Illinois basin	1.15	....	....	....	....	....	....	....	1.05	....	....
Princeton, Ind.	1.05	....	....	....	....	....	$0.95	....	....	....	....
Western Kentucky†	1.05	....	....	$1.00	....	....	....	....	....	$0.90	....
Birk City, Ky.‖	1.05	....	....	....	....	....	....	....	....	.90	....
Corydon, Ky.‖	....	....	....	....	....	....	....	....	....	.90	....
Greendale, Porter, Crystal, and Wise, Mich.*†	.785	.925	....	....	....	....	$0.975	....	....	....	....
Buckeye, Bentley, Edenville, Beaverton, Mich.*	.76	.90	....	....	....	....	.95	....	....	....	....
Freeman—Redding, Mich.*	.68	.82	....	....	....	....	.89	....	....	....	....
West Branch—Arenac, Mich.*	.70	....	....	....	....	$0.74	....	....	....	....	....
Allegan—Kent, Mich.§	....	....	$.68**	....	$0.88	....	....	....	....	....	....
Walker—Kent, Mich.	....	....	....	....	....	....	....	$0.78	....	....	....
Kent County, Mich.	....	....	....	....	....	....	....	....	....	....	$0.88
Sherman, Mich.‡	.82	....	....	....	....	....	.89	....	....	....	....
Eastern Kentucky:											
Big Sandy River†	1.12	....	....	....	....	....	....	....	....	1.02	....
Kentucky River†	1.20	....	....	....	....	....	....	....	....	1.10	....

*Simrall Corp. †Ashland Refining Co. ‡Pure Transportation Co. pays above posted prices in Porter, Greendale, and Sherman, effective April 20. §Imperial Refining Co. ‖Sohio Oil Co. Bloomingdale posted by Tri-Lakes Corp, Kent County by Naph-Sol Refining Co. **Commonwealth Pipe Line Co. *Note*—Bloomingdale, Mich., price Jan. 1, 84 cents; April 10, 98 cents.

YEARS OF EXPERIENCE *combined with the* PROPER *kind of* EQUIPMENT

has put the HILL-HUBBELL Process *in a class by itself!*

Buy STEEL PIPE Mill Coated-and-Wrapped at any of these Mills

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National Tube Company
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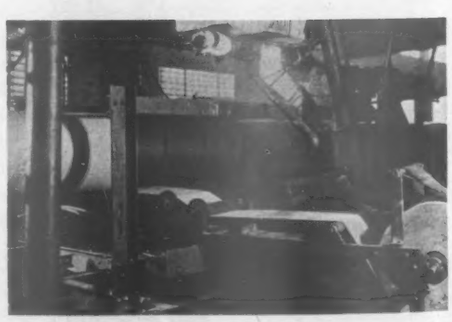
Outstanding Engineers say that the HILL-HUBBELL Process of Coating-and-Wrapping STEEL PIPE is the most efficient method known today, and that by no other method can coating be applied so effectively.

The reasons for the outstanding success of the HILL-HUBBELL Process are many—the most important ones are: (1) Exclusively used equipment that automatically controls temperature and mechanically agitates materials. (2) Coating-and-Wrapping is applied MECHANICALLY without the risks caused by unskilled or careless workers. (3) All work is done at Mills, INDOORS—thereby eliminating ALL weather hazards. You pay for it, so why not obtain the maximum protective efficiency of the HILL-HUBBELL Process on your next job?



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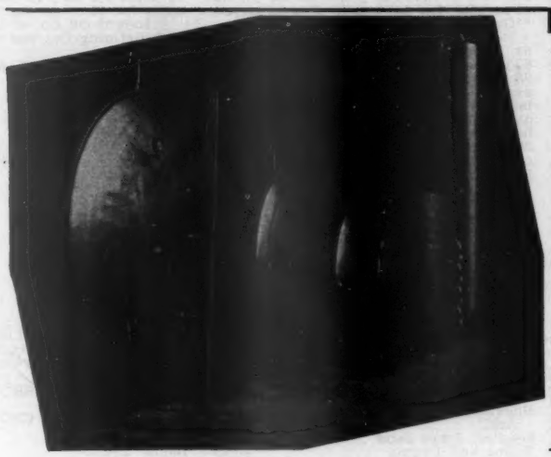
Schematic Construction of Specification TAX-1

GENERAL PAINT CORPORATION
HILL, HUBBELL & CO. • Division • Cleveland, Ohio
• EXPORT OFFICE: SAN FRANCISCO, CALIFORNIA, U. S. A. •



NEAT, CLEAN,

and PROTECTED, too, by

RUST-BAN

(Reg. U. S. Pat. Off.)
By H. O. & R. Co.

THE PRIMARY PURPOSE of *Rust-Ban* is to protect your equipment against corrosion. Certain of the Rust-Ban products, however, have been developed to beautify as well as protect. As a result, equipment coated with these Rust-Ban products *looks good* and *stays good.*

Rust-Ban is not a single product but an extensive line of corrosion-preventing coatings for every branch of the petroleum industry. Each product is designed to fill specific needs. Ask how Rust-Ban can help you solve your corrosion problems. Write for information to your Rust-Ban marketer.

RUST-BAN IS SOLD: In Texas and New Mexico by *Humble Oil & Refining Co.*, Houston, Texas • In New York and New England by *Colonial Beacon Oil Co.* • In Pennsylvania by *Standard Oil Co. of Pennsylvania*, Philadelphia, Pennsylvania • In New Jersey, Delaware, Maryland, District of Columbia, Virginia, West Virginia, North Carolina and South Carolina by *Standard Oil Company of New Jersey*, New York City • In Oklahoma and Kansas and parts of Missouri by *The Carter Oil Company*, Tulsa, Oklahoma • In Arkansas, Louisiana, Tennessee by *Standard Oil Company of Louisiana*, New Orleans, Louisiana • In Kentucky, Georgia, Florida, Alabama, and Mississippi by *Standard Oil Company (Ky.)*, Louisville, Kentucky • In other states by *Penola Inc.*, Pittsburgh, Pennsylvania • In Canada by *Imperial Oil Ltd.*, Toronto, Canada.

inson and Mirando, Texas Co. in Mirando and Duval but starting at below 21°, 77 cents, with a 2-cent spread up to and including 28° and above at 99 cents.

RACCOON BEND, TOMBALL, SATSUMA, TEX.

Gravity:	Jan. 1
22-22.9	$.95
23-23.9	.97
24-24.9	.99
25-25.9	1.01
26-26.9	1.03
27-27.9	1.05
28-28.9	1.07
Below 29	...
29-29.9	1.09
30-30.9	1.11
31-31.9	1.13
32-32.9	1.15
33-33.9	1.17
34-34.9	1.19
35-35.9	1.21
36-36.9	1.23
37-37.9	1.25
38-38.9	1.27
39-39.9	1.29
40 and over	1.31

Humble Oil & Refining Co., Magnolia Petroleum Co., in Tomball.

EAST TEXAS

	Jan. 1
East Texas	$1.10

FLOUR BLUFF, TEX.

	Jan. 1
Flour Bluff	$1.23

CASS COUNTY, TEX.

	Jan. 1
Cass County Magnolia Petroleum Co.	$1.25

SOUTHWEST TEXAS

	Jan. 1
Salt Flat, Darst Creek, Hilbig, Carroll, Clark and Zoboroski	$0.96
Pettus*	1.29
Luling†	.87
Lytton Springs†	.99

*Humble Oil & Refining Co. †Magnolia Petroleum Co. Pettus price adopted by Atlantic Crude Oil Purchasing Co. ‡Gulf Refining Co.

Government Wells posted by Sun Oil Co. starts at 20° at 77 cents, 3-cent spread to 24-24.9° at 89 cents.

Benavides, Heyser, Placedo by Republic Pipe Line Co. June 5, 1939, made top grade 35° and over $1.13. Jan. 1 posting went to 40° and over, $1.23.

GULF COAST

Gravity:	Jan.1
Below 20	$0.79
20-20.9	.82
21-21.9	.88
22-22.9	.88
23-23.9	.91
24-24.9	.94
Below 25	...
25-25.9	.97
26-26.9	1.00
27-27.9	1.02
28-28.9	1.04
Below 29	...
29-29.9	1.06
30-30.9	1.08
31-31.9	1.10
32-32.9	1.12
33-33.9	1.14
34-34.9	1.16
Below 35	...
35-35.9	1.18
36-36.9	1.20
37-37.9	1.22
38-38.9	1.24
39-39.9	1.26
40 and over	1.28

Posted by Humble Oil & Refining Co., Pure Oil Co., starting at below 20°, 79 cents. Texas Co. schedule in coastal Texas and Louisiana, starts at below 21°, 82 cents, with 3-cent differential up to 26-26.9° at $1 and then a 2-cent differential to top of $1.16 for 34° and above. Gulf Refining Co. schedule on Louisiana Gulf Coast starts at below 18°, 76 cents, with 2-cent spread to 20-20.9° at 82 cents, then a 3-cent spread to 26-26.9° at $1, then 2-cent spread to a top of $1.16 for 34° and over. Sun Oil Co. met Humble prices stopping at 34° and over at $1.16.

GULF COAST

Conroe, Tex.*	$1.27
Black Bayou and White Castle, La.	See note below
Gibson, La.†	$1.04
Garden Island, La.‡	1.21
Lafitte, La.‡	1.04
Cleveland, Tex.¶	1.14
Schwab, Polk County (Feb. 20, 1939)	1.00
Hardin, Tex.¶	1.02
Tepetate, La.§	1.03
Villa Platte, La.§	1.03
Abbeville, La. (Jan. 1, 1939)§	See note below
Bosco, La.¶	$0.93
Creole, La.¶	.96
Gueydan, Sweet Lake, and Louise, La.	See note below
Vinton, Edgerly, Starks, Hackberry, Timbalier Bay, Quarantine Bay, and Grand Bay, La.**	...
Long Lake, Tex.**	$1.08
Segno and Wing**	See note below
Livington†	$1.10
Gibson, La.†	1.04

Thompson, by Gulf Refining Co., April 22, 1939, posted 70 cents for below 20°, 77 cents for 20-20.9°, and 3 cents differential to 26-26.9° and 2 cents differential to 40° and above, $1.23.

*Humble Oil & Refining Co. †Shell Oil Co., Inc. ‡Texas Co. §Continental Oil Co. ¶Pure Oil Co. ¶Magnolia Petroleum Co. **Gulf Refinery Co.

Black Bayou, etc., starts at below 20° at 79 cents; 20-20.9°, 81 cents; 21-21.9°, 83 cents; then a 3-cent spread to 26-26.9°, 98 cents; then a 2-cent spread to 40° and over at $1.14. Abbeville starts at below 36°, 92 cents, 2-cent spread to 40° and over at $1.02. Gueydan, etc., starts below 20° 79 cents, 3-cent spread to 26-26.9° at $1, and 2-cent spread to 40° and over at $1.28. Segno and Wink take Gulf Refining Co.'s Gulf Coast prices. Vinton, Edgerly, etc., schedule starts at below 18°, 75 cents, 2-cent spread to 20-20.9° at 82 cents; then a 3-cent spread to 26-26.9° at $1; then a 2-cent spread to 34° and over at $1.16. Schwab posted by Shell Oil Co., Inc.

NORTH LOUISIANA AND ARKANSAS

Shreveport, La. (Apr. 18, 1939)	$1.05
March 11, Atlas Oil Co.	.98
March 13, Caddo Crude Oil Purchasing Co.	1.06
March 25, Atlas and Caddo	1.01
April 15, Atlas and Caddo	1.05
Smackover, Ark.*	.73
Buckner, Magnolia, and Village, Ark.*	See note below
Schuler, Jones sand	See note below
Tullos and Urania	$0.89
Cotton Valley, La. (distillate) (Dec. 23, 1938)*	1.20
Lisbon, La. (Apr. 29, 1939)	See note below
Cayuga, Pan American Pipe Line Co. (Feb. 19, 1939)	.68

*Smackover posted by Standard Oil Co. of Louisiana, Magnolia Petroleum Co., Gulf Refining Co., McMillian Refining Co., and Cross Refining Co. Tullos and Urania posted by Hunt Oil Co. and Arkansas Fuel Oil Co.

Schuler Jones sand schedule starts at below 25°, 66 cents, with 2-cent spread to 40° and over at 98 cents; by Lion Oil Refining Co.; Schuler light Morgan sand crude takes North Louisiana gravity scale along with El Dorado and Champagnolle; by Lion Oil Refining Co.; Buckner, Magnolia, and Village schedules posted by Standard Oil Co. of Louisiana and Lion Oil Refining Co. same prices as for Schuler Jones sand crude. Dixie Pipe Line Co. posted 80 cents for Magnolia April 1, 1939. Shreveport by Caddo Crude Oil Purchasing Co. and Atlas Oil Corp. Lisbon: Caddo Crude Oil Purchasing Co., posts below 34°, 73 cents; 34-34.9°, 75 cents; 35° and above, 77 cents. Effective May 1, 1939, Gulf Refining Co. posted a flat price of 77 cents in Lisbon. Caddo Crude Oil Purchasing Co. posted 73 cents for 34°; 75 cents, 34.9°, and 77 cents for 35.9° on April 29, 1939.

Standard Oil Co. of Louisiana. Met by Gulf Refining Co.; met by Texas Co.

NORTH LOUISIANA AND ARKANSAS

Gravity:	Jan. 1
Below 25	$.73
25-25.9	.75
26-26.9	.77
27-27.9	.79
28-28.9	.81
29-29.9	.83
30-30.9	.85
31-31.9	.87
32-32.9	.89
33-33.9	.91
34-34.9	.93
35-35.9	.95
36-36.9	.97
37-37.9	.99
38-38.9	1.01
39-39.9	1.03
40 and over	1.05

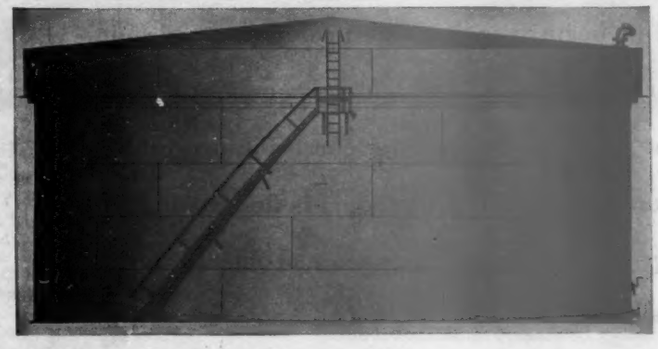
Texas Co. posts $1.05 on a flat base for Rodessa. Other companies purchase on above gravity price.

CHOCTAW, DARROW, ROANOKE AND NORTH CROWLEY, LA.

Gravity:	Jan. 1
Below 21	$.74
21-21.9	.77
22-22.9	.80
23-23.9	.83
24-24.9	.86
25-25.9	.89
26-26.9	.92
27-27.9	.94
28-28.9	.96
29-29.9	.98
30-30.9	1.00
31-31.9	1.02
32-32.9	1.04
33-33.9	1.06
34-34.9	1.08
35-35.9	1.10
36-36.9	1.12
37-37.9	1.14
38-38.9	1.16
39-39.9	1.18
40 and over	1.20

Posted by Standard Oil Co. of Louisiana.

GRAVER BREATHER ROOF



PATENT APPLIED FOR

- HAS SUFFICIENT BREATHING CAPACITY TO STOP BREATHING AND EVAPORATION LOSSES
- SELF DRAINING IN NORMAL OR EXPANDED POSITIONS
- REDUCES FIRE HAZARDS
- INCREASES PROFITS

Expansion of saturated vapors in vapor space of tanks amounts to 20% or more (during summer months) of the entire vapor space capacity and these vapors are normally saturated to the extent of from 20 to 25 gallons of gasoline per 1000 cubic feet.

For example, an 80,000 bbl. tank, ½ full and containing approximately 250,000 cubic feet of vapor space would expel 50,000 cubic feet or 1000 gallons of gasoline per day if the amount of saturation of vapor space was 20 gallons per 1000 cubic feet. If vapors were saturated to a greater extent, then the lossage in gallons would be considerably larger.

This needless waste can be effectively stopped with a Graver BREATHER ROOF—the most satisfactory type of breather for conservation of saturated vapors. INVESTIGATE the Graver BREATHER ROOF. Learn how losses can be eliminated and PROFITS INCREASED.

GRAVER TANK & MFG. CO., INC.

77 YEARS OF DEPENDABLE SERVICE

NEW YORK, N. Y. EAST CHICAGO, IND. CATASAUQUA, PA.

CABLE ADDRESS—GRATANK

IOWA DISTRICT, LA.

Gravity:	Jan. 1
Below 18	$.75
18-18.9	.77
19-19.9	.79
20-20.9	.81
21-21.9	.83
22-22.9	.86
23-23.9	.89
24-24.9	.92
25-25.9	.95
26-26.9	.98
27-27.9	1.00
28-28.9	1.02
29-29.9	1.04
30-30.9	1.06
31-31.9	1.08
32-32.9	1.10
33-33.9	1.12
34 and over	1.14

Posted by Shell Oil Co., Inc.

EVANGELINE, LA.

Gravity:	Jan. 1
31-31.9	$.87
32-32.9	.89
33-33.9	.91
34-34.9	.93
35-35.9	.95
36-36.9	.97
37-37.9	.99
38-38.9	1.01
39-39.9	1.03
40 and over	1.05

Posted by Stanolind Oil & Gas Co.

BLACK BAYOU AND WHITE CASTLE, LA.

Gravity:	Jan. 1
Below 20	$.79
20-20.9	.81
21-21.9	.83
22-22.9	.86
23-23.9	.89
24-24.9	.92
25-25.9	.95
26-26.9	.98
27-27.9	1.00
28-28.9	1.02
29-29.9	1.04
30-30.9	1.06
31-31.9	1.08
32-32.9	1.10
33-33.9	1.12
34-34.9	1.14

LOCKPORT, IOWA, CAMERON MEADOWS, LA.

Gravity:	Jan. 1
Below 18	$.74
18-18.9	.76
19-19.9	.78
20-20.9	.80
21-21.9	.82
22-22.9	.85
23-23.9	.88
24-24.9	.91
Below 25	...
25-25.9	.94
26-26.9	.97
27-27.9	.99
28-28.9	1.01
29-29.9	1.03
Below 30	...
30-30.9	1.05
31-31.9	1.07
32-32.9	1.09
33-33.9	1.11
34-34.9	1.13

Magnolia Petroleum Co., 1938.

ARTESIA AND MALJAMAR, N. M.

Gravity:	Jan. 1
28-28.9	$.61
29-29.9	.63
Below 30	...
30-30.9	.65
31-31.9	.67
32-32.9	.69
33-33.9	.71
34-34.9	.73
Below 35	...
35-35.9	.75
36-36.9	.77
37-37.9	.79
38-38.9	.81
39-39.9	.83
40 and over	.85

Continental Oil Co.

WEST TEXAS, (EXCEPT PECOS COUNTY) AND LEA COUNTY, N. M.

Gravity:	Jan. 1
Below 20	$.53
20-20.9	.55
21-21.9	.57
22-22.9	.59
23-23.9	.61
24-24.9	.63
25-25.9	.65
26-26.9	.67
27-27.9	.69
28-28.9	.71
29-29.9	.73
30-30.9	.75
31-31.9	.77
32-32.9	.79
33-33.9	.81
34-34.9	.83
35-35.9	.85
36-36.9	.87
37-37.9	.89
38-38.9	.91
39-39.9	.93
40 and over	.95

Humble Oil & Refining Co., Texas Co. schedule starts below 26°, 65 cents, and ends at 36° and over at 87 cents. Gulf Refining Co. starts at below 26° at 65 cents and ends at 40° and over at 95 cents. Magnolia Petroleum Co. schedule starts below 25°, 63 cents, and ends at 40° and above at 95 cents. Sinclair Prairie Oil Marketing Co. schedule same as that of Magnolia, but revised on March 24, 1939, to stop at 36° and over at 87 cents. Stanolind Oil Purchasing Co. schedule same as that of Humble. Stanolind Oil & Gas Co. (Winkler County) starts at below 26°, 65 cents, with a 2-cent spread, and a top of 95 cents for 40° and above.

FORT COLLINS AND WELLINGTON, COLO.

Gravity:	Jan. 1
28-28.9	$.81
29-29.9	.83
Below 30	...
30-30.9	.85
31-31.9	.87
32-32.9	.89
33-33.9	.91
34-34.9	.93
Below 35	...
35-35.9	.95
36-36.9	.97
37-37.9	.99
38-38.9	1.01
39-39.9	1.03
40 and over	1.05

Continental Oil Co.

CANADA

ONTARIO

By Imperial Oil, Ltd.

Petrolia	$1.90
Oil Springs	1.97

TURNER VALLEY

By Imperial Oil, Ltd.

Clear naphtha and discolored naphtha, 65° and higher	$2.14
Discolored naphtha and crude oil, 40-40.9°	1.14
Increasing 2 cents for each degree gravity with top price for 64-64.9°	1.62

These prices f.o.b. producers' field tankage.

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DRILLING AND PUMPING engine

One of an entirely new line of Waukesha Oil Field Engines—this 150 to 200-hp. Model WAKH can burn diesel oil, gasoline, butane, natural or artificial gas *by simply changing the fuel system.* All the engines in this new Multi-Fuel, Poly-Cycle series are likewise convertible—practically universal engines—change of fuel involves no modification of internal parts.

THIS NEW OIL FIELD ENGINE has the greatest possible flexibility—with the greatest over-all economy—whether used in wild-catting or proved fields.

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WAUKESHA MOTOR COMPANY
WAUKESHA, WISCONSIN
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Crude Exports Less This Year; Products Show Slight Gain

By H. STANLEY NORMAN

The United States exported 510,900 bbl. daily of crude oil and refined products during the first 5 months of this year, or about double the crude production from Illinois. Total shipments for the period, however, were 2,500,000 bbl. less than for the same period last year.

Exports of crude in the first 5 months dropped 11.1 per cent but foreign shipments of refinery products increased 2.4 per cent. Gross shipments of 77,146,000 bbl. of crude and products was a decline of 3.2 per cent compared to 79,658,000 bbl. in 5 months of 1938. The net favorable balance of petroleum exports over imports for domestic use, or the difference between 77,146,000 bbl. exports and 12,942,000 bbl. imports was 64,204,000 bbl., a daily average advantage to domestic producers of 425,192 bbl. for 5 months.

Gain in Wax

Improvement in exports of refined liquid products was confined to gas oil and distillate, residual fuel oil and lubricating oil. There was a sharp recovery of export business in wax totaling 100,024,000 lb., an increase of about 46 per cent. The sharp improvement in wax exports was doubtless the result of munition manufacture in Europe and Japan. It was instrumental in bolstering the wax market until the present time.

Shipments of gas oil and distillate fuels increased only 477,000 bbl., a gain of 3.7 per cent, largely confined to products with a relatively high Diesel index. Exports of residual fuel oil increased 1,365,000 bbl., totaling 7,693,000 bbl., a gain of more than 21 per cent. The increased edmand was reflective of greater activity in heavy industry, particularly in steel mills, armament factories and probably in the increase of military stocks available to foreign sea powers.

The increase of 100,000 bbl. in export of lubricating oils totaling 4,136,000 bbl. was a little more than 2 per cent.

Imports

Imports of petroleum at our principal ports increased 3,844,000 bbl. totaling 28,900,000 bbl., the A.P.I. figures show. The increase amounted to 15 per cent. The increase to North Atlantic ports was 2,968,000 bbl. to 26,463,000 bbl., or 12.6 per cent.

EXPORTS FOR FIRST 5 MONTHS OF 1939

(In 1,000 bbl., except wax in 1,000 lb.)

Five months—	Crude oil	Refined products	Gasoline	Kerosene	Gas oil, distillate	Residual fuel oil	Lubricating oils	Wax
1939	29,118	48,028	18,936	3,254	13,079	7,693	4,136	100,024
1938	32,753	46,905	19,633	3,656	12,602	6,328	4,036	68,458
1937	22,264	39,852	14,164	3,359	10,905	6,179	4,473	108,793

Foreign imports at Gulf Coast ports jumped 56 per cent in the first half of the year from 1,561,000 to 2,437,000 bbl. Most of this increase was confined to Houston and was the result of Mexican crude shipments to a refiner there. Imports at Boston almost doubled and there was a substantial increase of 2,760,000 bbl. in receipts of foreign oil at New York. Total New York imports of 16,279,000 bbl. were 20 per cent higher than for the first half of 1938.

Increase in Crude

Practically all of the increase was in crude oil. Receipts of crude at Atlantic and Gulf Coast ports totaled 16,336,000 bbl., an increase of 28 per cent over entrance of 12,759,000 bbl. in the first half of 1938. Foreign fuel oil receipts were off by the negligible total of 4,000 bbl. totaling 11,240,000 bbl. Gas oil receipts totaled 93,000 bbl. this year against none in the first half of 1938. Other petroleum products imported totaled 1,231,000 bbl., a gain of a little less than 17 per cent. Imports of crude in bond in 5 months increased 608,000 bbl., a gain of 49.7 per cent over 1,223,000 bbl. Imports of crude for domestic use in 5 months increased 9.6 per cent from 9,232,000 to 10,125,000 bbl.

Imports of refinery products in bond declined 4 per cent to 7,390,000 bbl. while receipts for domestic use increased almost 6 per cent totaling 2,817,000 bbl.

The character of refinery products imported was without feature. Some 62.4 per cent of total refinery imports, including products in bond and for domestic use, consisted of bonded residual fuel oil used primarily for bunkering of foreign vessels. Only 324,000 bbl. of residual fuel and 171,000 bbl. of gas oil came in for domestic consumption. Total imports of refined products for domestic use the first 5 months, amounting to 495,000 bbl., compares with 1,834,000 bbl. in the 1938 period.

Most of the 13,102,000 lb. of wax imported came in for domestic consumption, but represented a decline of more than 15 per cent compared to receipts of 15,536,000 lb.

California oil moved to Atlantic Coast ports during the first 6 months totaled 3,862,000 bbl., an increase of 1,247,000 bbl., or more than 47 per cent.

The tight East Coast fuel oil situation during most of the 6 months was reflected by movement of 1,462,000 bbl. from California to Atlantic Coast ports representing an increase of 1,142,000 bbl. or 356 per cent.

California

There was an increase of 16 per cent in California gasoline shipments to Atlantic ports. Motor fuel movement increased 226,000 bbl., or from 1,384,000 bbl. to 1,610,000 bbl. However, this year's receipts of California gasoline on the Atlantic Coast were less by 22,000 bbl. than in the first 6 months of 1937.

California crude shipments to the Atlantic Coast increased 25 per cent, or from 196,000 to 245,000 bbl., in the first half of 1939.

The increased receipts of California oil on the Atlantic Coast was particularly heavy at New York. Receipts of 1,097,000 bbl. at New York represented an increase of 624,000 bbl., or 132 per cent compared to the first half of 1938.

Receipts also increased at Baltimore and Philadelphia while products reaching other Atlantic ports dropped slightly.

TABLE 1—IMPORTS FOR FIRST 5 MONTHS OF 1939

(In 1,000 bbl., except wax in 1,000 lb.)

Five months—	Crude oil		Refinery products				Gas oil, distillate		Residual fuel		Wax	
	In bond	Domestic	In bond	Domestic	Gasoline	Kerosene	In bond	Domestic	In bond	Domestic	In bond	Domestic
1939	1,831	10,125	7,390	2,817	....	....	....	171	6,374	324	168	13,034
1938	1,223	9,232	7,746	2,681	*95	....	....	....	6,854	1,739	203	15,333
1937	608	8,434	8,665	4,167	....	....	480	....	7,511	2,453	....	11,031

*Unfinished.

TABLE 2—IMPORTS OF CRUDE OIL AND REFINERY PRODUCTS FOR FIRST HALF OF 1939 AT PRINCIPAL PORTS

	Baltimore (bbl.)	Boston (bbl.)	New York (bbl.)	Philadelphia (bbl.)	Others (bbl.)	Total (bbl.)	Gulf Coast (bbl.)	Grand total (bbl.)	Crude oil (bbl.)	Fuel oil (bbl.)	Gas oil (bbl.)	Other pet. oils (bbl.)
January	156,000	35,000	2,008,000	760,000	96,000	3,055,000	369,000	3,424,000	1,779,000	1,412,000	.....	233,000
February	329,000	83,000	1,739,000	719,000	103,000	2,973,000	499,000	3,472,000	1,701,000	1,421,000	.....	350,000
March	327,000	130,000	2,379,000	691,000	223,000	3,750,000	273,000	4,023,000	1,686,000	1,889,000	.....	448,000
April	426,000	133,000	2,947,000	1,054,000	55,000	4,615,000	223,000	4,838,000	2,979,000	1,766,000	93,000	.....
May	592,000	815,000	3,678,000	649,000	264,000	5,998,000	573,000	6,571,000	4,123,000	2,339,000	.....	109,000
June	518,000	435,000	3,528,000	1,026,000	565,000	6,072,000	500,000	6,572,000	4,068,000	2,413,000	.....	91,000
First half 1939	2,348,000	1,631,000	16,279,000	4,899,000	1,306,000	26,463,000	2,437,000	28,900,000	16,336,000	11,240,000	93,000	1,231,000
First half 1938	2,668,000	869,000	13,519,000	5,194,000	1,245,000	23,495,000	1,561,000	25,056,000	12,759,000	11,244,000	.....	1,053,000
First half 1937	2,210,000	1,536,000	14,577,000	4,922,000	1,651,000	24,896,000	2,098,000	26,944,000	11,572,000	13,710,000	470,000	1,062,000

High Creep Strength

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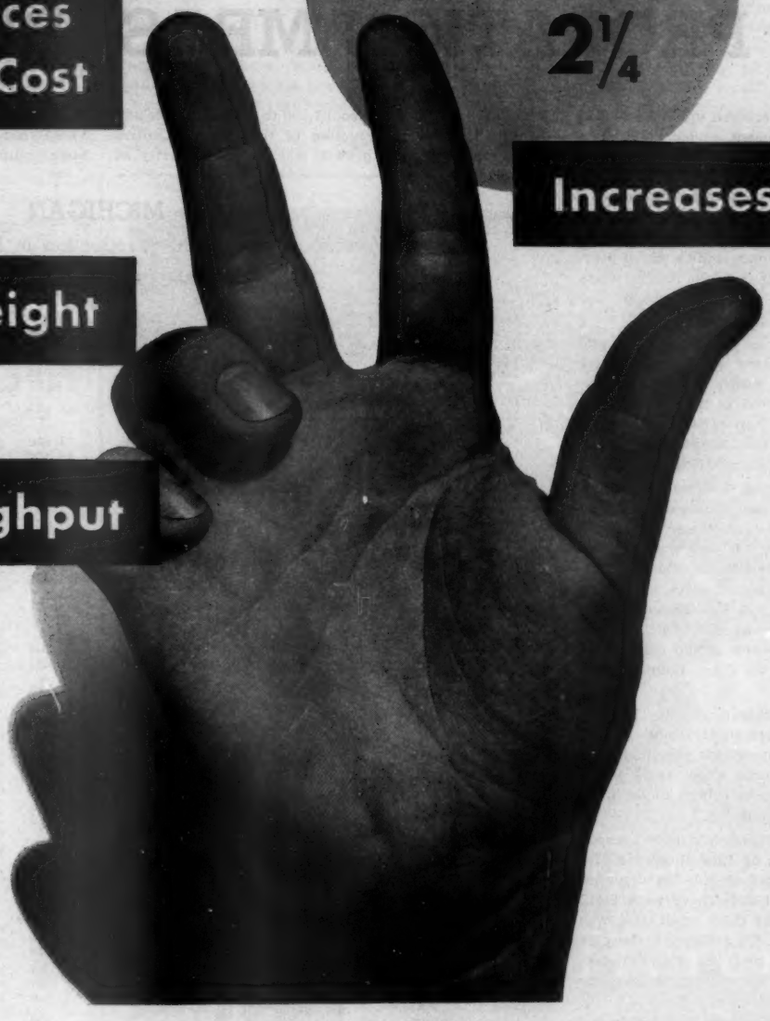

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Semi-Annual Review

OPEN IMPORTANT POOLS IN MICHIGAN; ADOPT PRORATION MEASURE

By O. C. PRESSPRICH

The Michigan oil industry is entered upon the second half of 1939 with its development under rigid state control designed to conserve and prevent waste.

With approval of most of the larger operators and over vigorous protests of many smaller independents, the legislature, sharing concern over what appeared to be wasteful exploitation of the rapidly developing southwestern Michigan fields, enacted laws which practically prohibit townlot drilling, establish 10-acre tracts as minimum areas for new wells and provide for strict proration in the principal fields.

July began with the number of producing wells and the daily average of production at unprecedented heights, following a period in which monthly production records were being shattered as the newer fields to the south and west more than offset the gradual decline of such once spectacular fields as Buckeye-Wicklund and Porter-Yost in Central Michigan.

Kent County's Walker-Wyoming field was the major new development of the half-year. Explorations began there late in 1938, with a minor producer completed, but it was not until January of this year that the first real producer was brought in. Today the Walker-Wyoming pool has jumped to fourth place in production. Meanwhile, the Allegan and Van Buren County fields were developing extensively and Central Michigan continued an important factor as the closely-controlled Freeman-Redding pool in Clare County gradually increased its value.

By the end of June, the Michigan industry had extended its operations so that practically every section of the state at one time or another this year had been the scene of exploration. Records show tests, many of them unsuccessful, naturally, have been made in no fewer than 40 of Michigan's 83 counties.

Compared with a year ago, Michigan's daily average production of crude at the end of June showed a 27.7 per cent increase, practically all of it being recorded during the first 6 months of 1939. There were 2,413 producing wells and the average daily production was 67,255 bbl. at the close of June. On January 1, the producing wells numbered 2,132 and the daily production averaged 53,255 bbl. On July 1, 1938, the average was 52,884 bbl. from 1,913 producing wells.

While the new Kent County oil field may be classed as the most important new development in 1939, its value presumably will be no greater than three other principal fields, Allegan, Freeman-Redding in Clare, and Van Buren. While the Kent County field came from nowhere to fourth place in 6 months, having 49 producing wells yielding an average of 6,732 bbl. of crude a day, Freeman-Redding in 6 months increased its producing wells from 39 to 92 and its daily average output from 6,676 bbl. to 13,345 bbl. last month. In that field the percentage of dry holes is the lowest in the state and the number of wells having initial natural flow exceeding 1,000 bbl. a day was the highest. But, even before state regulation became a reality, operators there were on a voluntary proration basis so that development has been steady and production closely controlled. Bigger companies predominate.

On the other hand, with independent operations concentrated in southwestern Michigan where the pay strata is encountered at from 1,200 to 1,800-ft. levels and drilling costs only a fraction of that in the Central basin, much wasteful growth was recorded. Partly as a consequence, the Bloomingdale Township field in Van Buren County has been consistently milked by the huge volume of townlot drilling. A somewhat similar,

MICHIGAN

Daily Average and Monthly Production in First Six Months of 1939

	January (bbl.)	February (bbl.)	March (bbl.)	April (bbl.)	May (bbl.)	June (bbl.)	Ttl. 6 mos. (bbl.)
PORTER-YOST:							
Daily average	5,860	5,835	5,979	5,682	5,682	5,448	
Month	181,660	163,380	185,349	170,460	176,142	163,440	1,040,431
GREENDALE-CHIPPEWA:							
Daily average	1,541	1,596	1,580	1,539	1,602	1,530	
Month	47,771	44,688	48,980	46,170	49,662	45,900	283,171
GENEVA-MIDLAND:							
Daily average	18	18	17	15	12	14	
Month	558	504	527	450	372	420	2,831
SHERMAN-ISABELLA:							
Daily average	1,703	1,426	1,446	1,246	1,112	982	
Month	52,793	39,928	44,826	37,380	34,472	29,460	238,859
WISE-ISABELLA:							
Daily average	194	215	391	568	741	731	
Month	6,014	6,020	12,121	17,040	22,971	21,930	86,096
VERNON-LEATON-DENVER:							
Daily average	835	858	961	902	900	818	
Month	25,885	24,024	29,791	27,060	27,900	24,540	159,200
FREEMAN-REDDING:							
Daily average	8,360	10,897	12,614	13,773	14,134	13,345	
Month	259,160	305,116	391,034	413,190	438,154	400,350	2,207,004
GRANT-CLARE:							
Daily average	4	.....	.....	7	7	7	
Month	124	.....	.....	210	217	210	761
BEAVERTON:							
Daily average	162	186	201	160	141	170	
Month	5,022	5,208	6,231	4,800	4,371	5,100	30,732
EDENVILLE:							
Daily average	1,611	1,333	1,115	1,060	1,000	841	
Month	49,941	37,324	34,565	31,800	31,000	25,230	209,860
BENTLEY-GLADWIN:							
Daily average	766	624	561	570	496	476	
Month	23,746	17,472	17,391	17,100	15,376	14,280	105,365
BUCKEYE-WICKLUND-OARD:							
Daily average	9,796	9,376	8,848	8,384	7,641	6,922	
Month	303,676	262,528	274,288	251,520	236,871	207,660	1,536,543
OGEMAW:							
Daily average	2,953	2,796	2,937	1,524	1,712	1,788	
Month	91,543	78,288	91,047	45,720	53,072	53,640	413,310
SECORD-GLADWIN:							
Daily average	.....	.....	28	14	.....	.....	
Month	.....	.....	868	420	.....	.....	1,288
ADAMS-ARENAC:							
Daily average	135	149	178	167	159	157	
Month	4,185	4,172	5,518	5,010	4,929	4,710	28,524
CLAYTON-ARENAC:							
Daily average	2,617	2,381	2,004	2,546	2,147	1,842	
Month	81,127	66,668	62,124	76,380	66,557	55,260	408,116
TUSCOLA:							
Daily average	.....	.....	.....	8	2	2	
Month	.....	.....	.....	240	62	60	362
SAGINAW AREA:							
Daily average	79	99	103	77	76	106	
Month	2,449	2,772	3,193	2,310	2,356	3,180	16,260
BIRCH RUN:							
Daily average	46	43	43	42	41	37	
Month	1,426	1,204	1,333	1,260	1,271	1,110	7,604
DUNDEE-MONROE:							
Daily average	14	19	18	18	18	17	
Month	434	532	558	540	558	510	3,132
MONTCALM COUNTY:							
Daily average	461	519	561	492	417	443	
Month	14,291	14,532	17,391	14,760	12,927	13,290	87,191
ALLEGAN COUNTY:							
Daily average	4,274	4,298	4,629	6,297	8,106	9,287	
Month	132,494	120,344	143,499	188,910	251,286	278,610	1,115,143
MUSKEGON:							
Daily average	91	132	95	113	101	96	
Month	2,821	3,696	2,945	3,390	3,131	2,880	18,863
KENT COUNTY:							
Daily average	89	314	542	2,330	2,501	6,732	
Month	2,759	8,792	16,802	69,900	77,531	201,960	377,744
VAN BUREN COUNTY:							
Daily average	14,574	16,381	13,653	16,170	18,291	15,758	
Month	451,794	458,668	423,243	485,100	567,021	472,740	2,858,566
Daily average	56,183	59,495	58,504	63,704	67,039	67,549	62,083
First 6 months 1939	1,741,673	1,665,860	1,813,624	1,911,120	2,078,209	2,026,470	11,236,956
First 6 months 1938	1,591,168	1,497,356	1,623,346	1,688,820	1,762,381	1,585,410	9,748,481
First 6 months 1937	903,347	885,532	1,219,911	1,345,791	1,310,048	1,270,254	6,934,883

DISCOVERIES IN MICHIGAN IN FIRST 6 MONTHS 1939

Pool—	County	Company and farm	Location	Formation	Total depth	Init. prod.	Date
Bangor	Van Buren	Blood & Hendershott No. 1 Jackson	Sec. 29-2s-16w	Traverse lime	1,007	400	February 9
Walker	Kent	Smith Petroleum Co. No. 1 Whalen	Sec. 32-7n-12w	Traverse lime	1,876	391	January 17
Hopkins	Allegan	Chulski & Varner No. 1 Brown	Sec. 23-3n-12w	Traverse lime	1,635	400	January 24
New Salem	Allegan	Gordon Oil Co. No. 1 Sutter	Sec. 14-4n-13w	Traverse lime	1,633	622	January 17
Clapsaddle	Van Buren	Clapsaddle No. 1 Been	Sec. 24-1s-15w	Traverse lime	....	590	February 20
Ostego	Allegan	Sprenger Bros. No. 1 Norton	Sec. 30-1n-12w	Traverse lime	....	10	January 29
Allegan	Allegan	Detroit-Allegan Dev. Co. No. 1 County Farm	Sec. 5-2n-13w	Traverse lime	....	2	March 2
Diamond Springs	Allegan	Sprenger Bros. No. 1 Schaffer	Sec. 14-3n-13w	Traverse lime	....	5	February 1
Carscallen	Ottawa	Carscallen & Anderson No. 1 Longworth	Sec. 4-7n-13w	Traverse lime	....	20	February 15

The Walker field was actually discovered in September 1938 by McCollum & Herr No. 1 Story in Section 32-7n-12w, with a 65-bbl. well at a total depth of 1,876 ft., but the Smith Petroleum Co. well above listed started the drilling campaign in earnest.

but less extensive situation, has resulted in adjoining Columbia Township. The Van Buren field, which is almost entirely Bloomingdale and Columbia, nearly tripled the number of its producing wells in the first 6 months of 1939, rising from 90 to 231, while daily average production was much less than doubled, increasing from 9,967 bbl. to only 15,758 bbl.

Allegan County, nearby, had a somewhat better record as its producing wells increased from 228 to 307 and its daily average production from 5,632 bbl. to 9,287 bbl. last month.

While failing by a long way to offset new development, the older fields in half a dozen instances faded into the background, the principal decline being in the Buckeye-Wicklund-Oard area, where 3 years ago daily production exceeded 25,000 bbl. In that pool late in 1937 there were more than 400 producing wells. Most of them continue to be pumped, but the statistics reveal that from December 1938 to June 1939 production dropped from a daily average of 10,940 bbl. to 6,922 bbl. The Porter-Yost, Edenville, Ogemaw and Clayton-Arenac fields also have dwindled considerably. A score of lesser fields, meanwhile, have continued on a nearly even keel, occasional new producers more or less offsetting decline in older wells.

Michigan production in May passed the 2,000,000-bbl. mark for the first time, totaling approximately 2,075,000 bbl., the only reason another record was not set being there was 1 day less.

MICHIGAN

Summary of Wells Completed First Half of 1939

County—	Comp.	Prod.	Dry	Gas
Adams	2	86	1	0
Beaverton	2	0	2	0
Bentley	6	3,650	1	0
Bloomingdale	126	44,724	25	0
Clayton	7	135	0	6
Columbia	28	9,400	6	0
Deerfield	1	0	0	1
Dorr	2	300	1	0
Edenville	1	0	1	0
Edmore	5	314	1	3
Freeman	64	84,445	5	0
Kent County	54	43,431	6	0
Loomis	8	2,923	1	2
New Salem	36	14,225	3	0
Sherman	1	314	0	0
Skunk Lake	20	1,773	11	0
Stewart	13	3,178	1	0
Ravenna	1	0	0	1
West Branch	5	337	0	0
Winfield	3	0	1	2
Wisner	2	55	1	0
Winegars	1	37	0	0
Buckeye	0	0	0	0
Overisel	6	1,425	0	0
Salem	33	13,420	1	0
Hopkins	9	1,025	4	0
Bangor	11	1,440	6	0
Gobles	20	6,420	14	0
New Haven	2	0	1	1
Wise	3	300	1	1
SE Columbia	22	9,125	5	0
Wildcats	176	869	172	1
Total first half 1939	670	243,351	271	18

Completions by Months

Month—	Comp.	Prod.	Dry	Gas
January	83	21,058	39	1
February	89	37,148	31	2
March	116	47,034	34	1
April	121	31,134	58	6
May	138	52,714	59	5
June	123	54,263	50	4
Total first half 1939	670	243,351	271	19
Total first half 1938	454	69,605	176	13
Difference	216	173,746	95	6

Aside from the new Kent County field, there were few other new developments in the past 6 months and indications are that the next 6 months wil be concentrated chiefly on the existing fields. However, there are no indications that activity will decrease, as the state Conservation Department continues to issue drilling permits at a weekly rate averaging 30 or more and new completions for months have been between 30 and 40 a week, with commercial producers outnumbering dry holes by better than 2 to 1.

Last January, as the Van Buren development was booming, what had been a voluntary proration in the field was abandoned in favor of a market-adjusted production based on well-spacing, but as prices ebbed the system gradually disintegrated until the state stepped in along mid-year. It was in January that operators in Clare County provided 10- and 20-acre spacing and a limit on individual well production. About that time a small new oil pool was discovered in Section 17 of Isabella's Wise Township. Townlot drilling dominated the Bloomingdale picture, and the Redding pool in Clare County, after a lapse in development, became the scene of considerable new, orderly drilling and saw the appearance of numerous big wells.

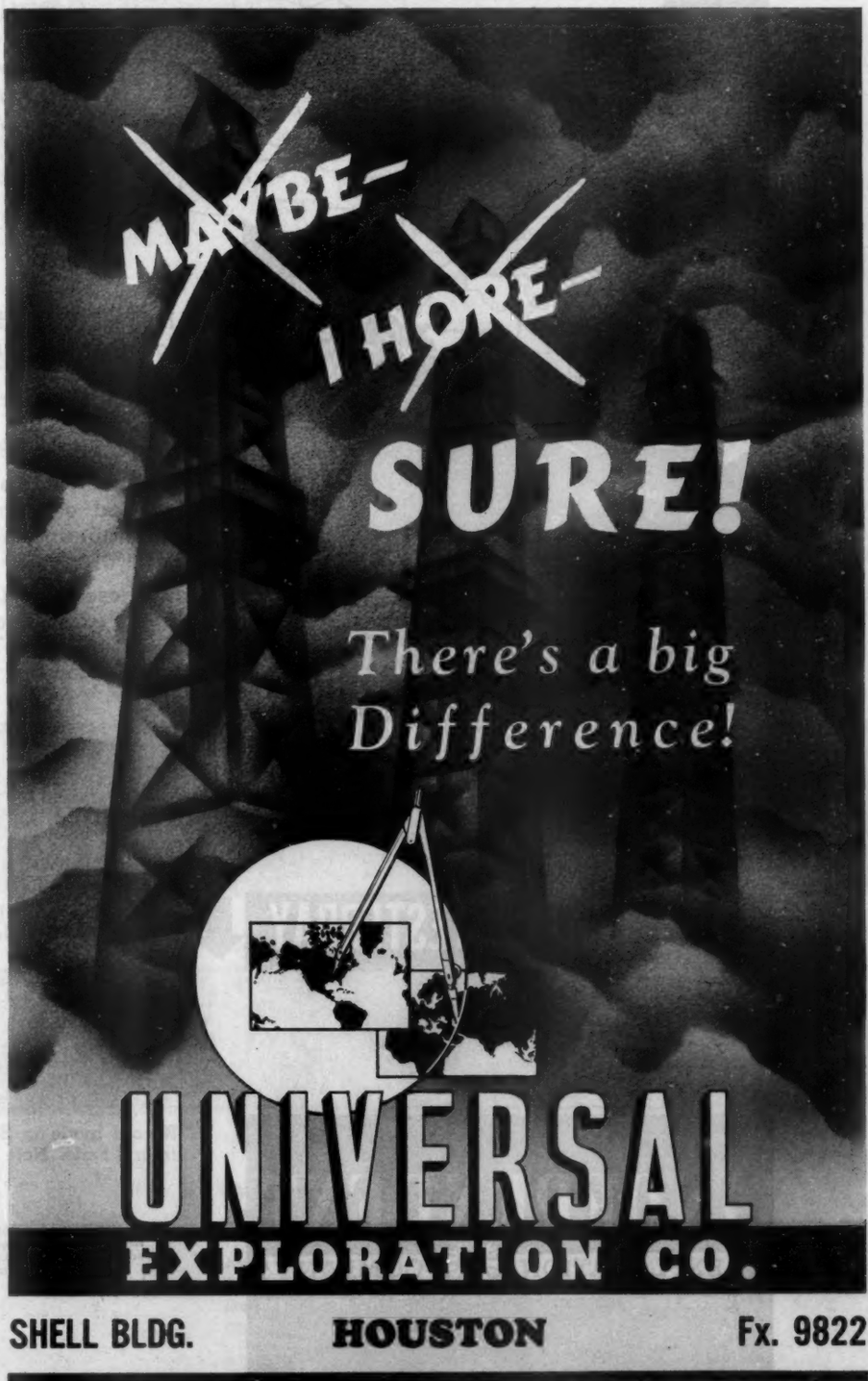
Attention concentrated suddenly during the second week of February on Kent County as Smith Petroleum Co. brought in No. 1 Whalen, SW SE SW Section 32, Walker Township (7n-12w) with initial production of 400 bbl. a day. The next week Socony-Vacuum Oil Co., operating in Clare County, completed one of the biggest wells Michigan had seen in many months, when its No. B-1 L. G. Fell in Section 33 of Redding rated 5,000 bbl. a day after acid treatment more than doubled natural flow. That was followed by C. L. Maguire's 6,000-bbl. well in Section 3 of Freeman Township. Meanwhile the New Salem pool in Allegan, discovered 4 months previously, was coming into its own as the shallow producers were being completed and initial productions of 1,000 bbl. and more a day became fairly numerous.

By March, original interests in the Kent County discovery were predicting a field that might rank with the famed Buckeye. While they may have been too optimistic, the area has become a major field.

Crude prices in Michigan kept sliding in March, due at least partly to the insistent demand for a ready market from the operators engaged in the scramble for the cheap supply of Bloomingdale oil.

While little or nothing developed as the result of wildcatting development went ahead in the southwest to reach a new peak in speculation over Kent County possibilities as the year's biggest well was brought in late in June by Lenoran Petroleum Co. in Section 4 of Walker Township. It rated initial natural flow of nearly 7,500 bbl., overshadowing completely a Swanson Consolidated Oil Co. completion of a few days before in Section 4, which got initial production 2,500 bbl.

While eventually proved only an expensive venture, attention was given for months to a deep well test in Section 2 of Monitor Township, Bay County, conducted by Gulf Refining Co. Salt water dashed hopes in March. It subsequently was drilled below 4,000 ft., but eventually was plugged back to the Monroe and maintained as a small producer. The goal originally was oil in commercial quantities at levels deeper than heretofore had been tested in northeastern and Central Michigan.



Along the SPARTA-WILCOX Trend

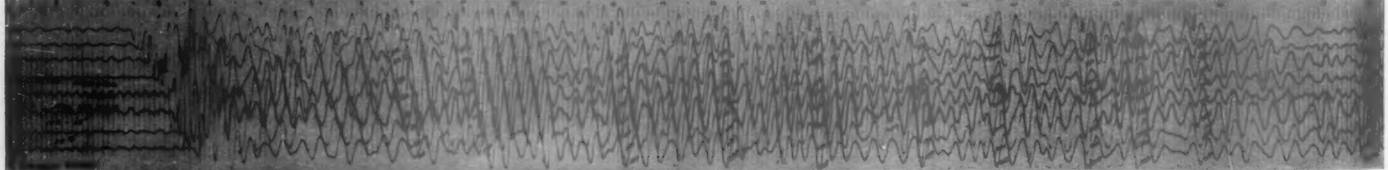
In 1933 an Independent Seismograph crew located and mapped the structure now known as Eola field. The mapping and location of the discovery well were based upon records of the "Yesterday" type — the best available in 1933.

Today, however, by the use of greatly improved equipment and methods, Independent obtains the obviously superior "Today" type of record at the same location.

These superior records, plus the accumulated experience of 7 years work along the Sparta-Wilcox Trend, insure continued satisfaction for the clients of Independent.

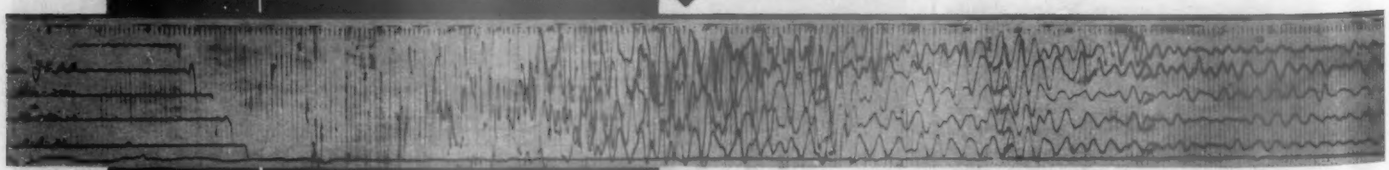
POINTING THE WAY IXC FOR THE DRILL

TODAY



YESTERDAY

Record made in March, 1939, showing workable reflections from 11 beds.



Record made in September, 1933, showing reflections from 3 beds. Note correlation of the two records.

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FIELD OPERATIONS

Summarizing the Week's Developments

TEXAS: Gulf Coast—The Lovells Lake pool in Jefferson County was extended 1,500 ft.

Southwest Texas—A wildcat 6,000 ft. east of the discovery well in La Gloria field in Jim Wells County showed oil on a drill-stem test and is being tubed for a production test. The Reynolds pool in Jim Wells was extended 1,300 ft. northeasterly. The Minnie Bock pool in Nueces County was defined on the northeast by a dry hole.

West Texas—A wildcat Ordovician test in Pecos County was showing favorably in the 5,100-ft. horizon.

West Central Texas—The Palo Pinto lime trend play in Jones County received a check when G. M. Gillespie abandoned No. 1 Samples at 3,505 ft. It is 4 miles southwest of the Griffin pool. A new Caddo lime pool was opened in western Stephens County. The discovery well was a relatively small producer of oil and gas.

North Texas—Montague County has a new pool. It was dry in the 2,900-ft. sand, from which the nearest well produces, and was drilled to oolitic lime at 3,853-69 ft. It swabbed at the rate of 240 bbl. per day. The Hull-Silk pool and the Sikes extension were brought closer together by Helmerich & Payne No. 2 Shepherd, which flowed 100 bbl. in 3 hours.

LA-ARK-TEX—A 270-bbl. well in a new sand in the East Hackberry field in Cameron Parish was a feature of the coastal Louisiana area. Eola field in Avoyelles Parish was extended northeasterly by a 400-bbl. well. In Arkansas and North Louisiana several wildcats with interesting showings in drill-stem tests are commanding close observation. Fourteen wells are drilling in the Magnolia field in Columbia County, Arkansas.

OKLAHOMA—The second test in the new Hobart pool, Kiowa County, flowed 116 bbl. of oil in 4 hours after acidizing. An important Wilcox sand wildcat was being started in Noble County, between the Polo, Billings and Garber pools. Several tests were started in the Iglehart extension of the St. Louis pool, Pottawatomie, with two seeking to extend the pool across the line into Seminole County.

KANSAS—Silica field was extended ½ mile northeastward in Rice County. The West Prusa pool in Barton, South Stoltenberg pool in Ellsworth and South Wherry pool in Rice County were opened. The Morel pool in Graham County was extended 1¼ miles northwestward. Two wells, good for 6,441 bbl. and 4,271 bbl., respectively, were completed in the Hittle field, Cowley County.

NEW MEXICO—A 240-bbl. well was completed on the far west side of the Loco Hills pool, Eddy County, and a 600-bbl. well was completed near the center of the proven area, both flowing through tubing. Six wells were started at Loco Hills and four new tests were reported in the Lovington area, Lea County.

MICHIGAN—Kent County's Walker pool was extended a mile northwesterly by a 960-bbl. well. This field is near Grand Rapids. Twelve of the twenty oil completions in the state last week were reported from Kent County, and they showed a total of 10,000 bbl. in new potential production.

ILLINOIS—Fifty-five new oil wells were completed in Illinois last week and production continued its upward climb. An unusual number of dry holes, 25 in all, were abandoned.

CALIFORNIA—Standard Oil Co. opened a pool paralleling the Greeley field in Kern County, the well flowing 1,490 bbl. of oil and 5,500,000 cu. ft. of gas.

Completions in All Fields

(Week Ending July 22, 1939)

	Oil	Gas	Dry	Total	1939 total comp. to date	1938 total comp. to date
N. Y., Pa., and W. Va.	51	10	3	64	1,727	2,182
Ohio	5	17	7	29	539	520
Indiana	3	0	2	5	131	42
Kentucky	3	0	8	11	355	475
Illinois	55	0	25	80	1,923	699
Michigan	20	1	11	32	749	457
Kansas	28	1	8	37	677	934
Oklahoma	23	2	18	43	1,039	993
Texas:						
North Central Texas	32	2	15	49	1,354	1,735
West Texas	26	0	7	33	1,041	1,156
Texas Panhandle	10	3	0	13	225	348
East Texas	5	0	0	5	275	1,199
East Central Texas	0	0	5	5	144	206
East Texas Border	1	1	1	3	43	87
Gulf Coast Texas	13	0	6	19	759	713
Southwest Texas	22	0	8	30	1,302	1,148
Total Texas	109	6	42	157	5,143	6,592
North Louisiana	2	0	3	5	286	352
Gulf Coast Louisiana	10	0	3	13	331	256
Total Louisiana	12	0	6	18	617	608
Arkansas	10	0	3	13	140	134
Montana	2	2	0	4	80	49
Wyoming	4	0	1	5	55	93
Colorado	2	0	0	2	7	6
New Mexico	9	0	3	12	337	309
California	13	1	5	19	506	746
Total United States	349	40	142	531	14,025	14,839
Total previous week	333	42	131	506		
Week ending July 23, 1938	379	41	113	533		

Outstanding Fields—Highlights

(Week Ending July 22, 1939)

FIELD—	Rigs up	Wells drlg.	Weekly oil completions	Initial prod.	Total No. oil wells	Daily av. prod.
TEXAS						
K.M.A.	26	47	6	4,924	1,056	23,195
Wasson-Bennett	15	56	6	5,576	349	15,535
Ector County	24	63	8	12,554	1,767	46,686
Pecos County	20	34	2	205	1,157	36,238
Jones County	10	25	9	9,901	528	8,222
East Texas	4	26	5	162	25,949	372,996
OKLAHOMA						
St. Louis	6	32	3	520	862	35,500
KANSAS						
Barton County	4	17	2	2,902	437	15,455
Ellis County	3	16	1	1,161	398	10,305
Rice County	3	28	3	795	1,348	34,020
Russell County	4	26	10	4,943	1,269	27,405
NEW MEXICO						
Lea County	7	52	8	3,523	2,191	106,010
LA-ARK-TEX						
Magnolia	3	14	4	2,315	41	12,295
Cotton Valley, La. (deep)	0	8	0	0	131	9,330
MICHIGAN						
Kent County	6	37	9	7,955	65	7,391
Van Buren County	4	30	3	1,200	252	15,212
ILLINOIS						
Salem	9	74	31	16,868	1,084	156,420
Louden	8	66	13	3,149	955	58,130
Other basin fields	26	211	11	3,963	1,449	54,300
Old fields	....	....	....	.....	13,500	12,800
CALIFORNIA						
Wilmington	4	21	5	2,618	681	85,250

Illinois and Kentucky

By STAFF CORRESPONDENT

Illinois Crude Production Up to 281,650 Barrels Per Day

CENTRALIA, Ill., July 24.—Activity in Illinois increased last week over the preceding 7 days by 23 completions and 2 new operations but new wildcats dropped from 13 to 5. New work in the state did not keep up with the completions as the 75 new starts fell five short of balancing the 80 completions. Twenty-four dry holes were abandoned, an unusually large number; there were 55 oil wells, and one salt water disposal well.

Fayette County and Wayne County led in the number of failures, each having four; the abandoned tests were on the edge of the Louden field and outlined one sector of that pool; the Wayne County failures were wildcats. Jasper, Bond, McDonough, Marion, Washington, Wabash, White, Pike, Perry, and Williamson counties reported one dry hole each, Fayette and Wayne counties had four each, and Jefferson County was the most disappointing of all when it reported three dry holes and no successful completions.

Crawford and Gallatin reported a successful completion each, the former good for only 3 bbl. while the latter was a 30-bbl. producer in the Waltersburg sand. Clay and Wayne each had two successful wells with the total initial of the former 848 bbl. and of the latter 2,000 bbl. Fayette County accounted for 15 successful completions for a total initial of 3,329 bbl.; 13 of these were in the Louden pool while two were in the St. James pool. There were three wells completed in the Cordes field in Washington County for an initial of 149 bbl.

Marion County accounted for over half of the oil completions for the week, chalking up 30 completions in the Salem field and one in the Tonti area for a total initial of 17,624 bbl. First reports in the same area amounted to 36 tests scheduled for the Salem and two for the Tonti fields.

Richland, White, Johnson, Gallatin, and Jasper counties had one first report each, Wayne County had five, Fayette County had 16, Clay County three, Washington County five, and Wabash County three. There were only five wildcat first reports with one each scheduled for Wayne, Shelby, Williamson, Johnson, and Jasper counties.

Carter Oil Co. accounted for 14 of the starts in Louden, but the new work in Salem was spread out; Ohio Oil Co. was starting eight tests, Magnolia Petroleum Co. four tests, Shell Oil Co. five tests, Texas Co. 11 tests, and independents eight tests in the Marion County pool.

Ten of the Louden completions of the week belonged to Carter Oil Co., while Texas Co. completed 11 wells, Shell Oil Co. one well, Magnolia Petroleum Co. four wells, Ohio Oil Co. two wells, and independents the balance in the Salem field.

Magnolia Petroleum Co. set a mark for Salem producers to shoot at when they completed four wells in Section 29-2n-2e for a total of 11,422 bbl. from the McClosky lime. That company's No. 10 J. R. Young made 1,800 bbl., No. 17 S. Shanafelt 4,018 bbl., No. 16 Shanafelt 3,744 bbl., and No. 14 Shanafelt 1,860 bbl.; Magnolia also got the best producer in the Aux Vases of the week, a 360-bbl. producer. Carter Oil Co. completed one well in three zones for a total of 438 bbl. and one in the Cypress sand for 327 bbl. to lead the Louden field. Carl Robinson's 1,500-bbl. well led the Wayne County development.

In White County, a near completion looks like a good Aux Vases sand producer; it is the Nation Oil Co. No. 1 B. McIntosh, NW SE SW Section 31-3s-8e which which was reported as having made 1,000 bbl. from a depth of 3,285 ft. The new well is on the same tract with a McClosky producer. The township in which it is located is just north of Barnhill Township in Wayne County, which already has obtained production. There is one other wildcat drilling in the area.

The extent of the Devonian lime discovery north of Sandoval remains to be proven with the wells in that area not yet in the deep pay.

The Chicago U. S. Circuit Court of Appeals last week granted the Carter Oil Co. a permanent injunction prohibiting the drilling of wells on the Samuel C. and Jennie Bauer roadway in Louden Township by Charles R. Myers and O. W. Dickerson. Carter obtained direct a lease on all the Bauer lands and Myers and Dickerson held a lease from the Fayette County Board of Supervisors. The case was appealed from federal District Court of East St. Louis which granted Carter Oil Co. the original decree.

New Wildcats

In Shelby County, Rex Development Co. No. 1 Odell, CEL SE NW Section 20-14n-2e, an old well drilling deeper from 575 ft., shut down at 805 ft. for repairs.

In Jasper County, Thompson Drilling Co. No. 1 Union Central Life Insurance Co., SE SE SW Section 14-8n-10e, an old well drilling deeper, was a first report and an abandoned test. The old total depth was 2,500 ft. and the hole was abandoned at 2,602 ft.

In Wayne County, Andine and others No. 1 Osborn, NW NE NW Section 2-3s-8e, moving in rotary tools.

In Williamson County, J. Curtis Starr No. 1 Marie Carney, trustee, SE NW NW Section 21-9s-4e, had derrick up for rotary test.

In Johnson County, Coates and others No. 1 Albright, NE NW SE Section 22-12s-2e, spudded to 28 ft.

Illinois Fields

HIGHLIGHTS OF THE WEEK: The 300,000-bbl. mark in daily production of Illinois is not far away. How much higher than that production will go before it slips over the peak is anyone's guess. While 80 wells were completed in the past week 24 of them were dry holes, either on the edge of pools or in wildcat districts. Magnolia Petroleum Co. completed four McClosky lime wells with a total initial production of 11,422 bbl.

Average daily production of new fields, 268,850 bbl.; old fields, 12,800 bbl.; total 281,650 bbl.

Oil wells completed, 55; total operations, including locations, rigs and wells drilling, 431.

Illinois Completions

In Crawford County, Salvage Oil & Gas Co. No. 6 McGrillis, NW NW SW Section 25-8n-13w, an old well drilling deeper from 2,785 ft., picked up sandy lime in the Devonian at 2,900-11 ft., shot with 40 lb. dynamite, swabbed 3 bbl. oil and 55 bbl. water, pumped 3 bbl. oil and 24 bbl. water.

In Fayette County, Louden field, tne Carter Oil Co. No. 2 Sirilous Musser, NE SE SW Section 2-8n-3e, Cypress sand 1,487-1,516 ft. and Paint Creek stray 1,567-80 ft., 20-qt. shot in each horizon, swabbed 352 bbl. Carter Oil Co. No. 1 Fay Kline, NE SW NW Section 13-8n-3e, Cypress 1,494-1,510 ft., 20-qt. shot, swabbed 350 bbl. through casing. Carter Oil Co. No. 3 D. Doty, NE SE NE Section 14-8n-3e, Cypress 1,491-1,514 ft., 30-qt. shot, flowed 360 bbl. Same company No. 1 Cynthia Harper, SE NE SW Section 22-8n-3e, Cypress 1,363-1,431 ft., Paint Creek stray 1,447-64 ft., and Bethel 1,475-1,506 ft., shot with 70 qt. in the Bethel and 20 qt. in the stray, casing ripped opposite Cypress, flowed 438 bbl. through tubing. Carter Oil Co. No. 1 Orville Summers, SW NW SW Section 23-8n-3e, Paint Creek stray 1,507-20 ft., Cypress 1,419-83 ft., Bethel 1,533-45 ft., shot with 20 qt. in both Cypress and Bethel, flowed 300 bbl.

E. F. Jones No. 1 Hogan, SE SW NE Section 31-8n-3e, abandoned in the Benoist 1,623-38 ft. with only a show of oil and plenty of water. Carter Oil Co. No. 1 F. L. Brown, SW SE NE Section 31-8n-3e, tested only 3 gal. fluid per hour after 100-qt. shot in Cypress 1,500-54 ft. and was abandoned. Paul Doran No. 9 Goelting, SW NW NW Section 32-8n-3e, Cypress sand 1,438-76 ft., 40-qt. shot, pumped 250 bbl. Carter Oil Co. No. 1 F. M. Mills, NW SW SE Section 4-7n-3e, Cypress sand 1,503-32 ft., shot with 40 qt., swabbed 80 bbl. in 24 hours. Carter Oil Co. Edith Quade, north of approximate center N½ SW SW Section 6-7n-3e, Tar Springs 1,163 ft., shot with 120 qt., 1,192-1,230 ft. and was a salt water disposal well. Johnson Drilling Co. No. 1 Arnold, SW SW NE Section 19-7n-3e, Cypress 1,501-59 ft., shot with 30 qt. but collapsed casing, squeezed and ran packer, completed for 40 bbl. on pump. Carter Oil Co. No. 5 Caddington, SW SE SW Section 20-7n-3e, Cypress sahd 1,548-63 ft., shot with 20 qt., swabbed 168 bbl.

Stewart Oil Co. No. 2 Durbin, NW NE SE Section 20-7n-3e, Cypress 1,543-85 ft., stray 1,637-60 ft., shot with 50 qt. in stray, pumped 10 bbl. oil and 60 bbl. water in first 24 hours but production decreased to only ½ bbl. oil and 6 bbl. water on next production period and the well was abandoned. Stewart Drilling Co. No. 1 Aldrich, SW SW SW Section 21-7n-3e, Cypress sand 1,546-76 ft., shot with 60 qt., pumped 240 bbl. Carter Oil Co. No. 1 J. H. Hiatt, NW NE SW Section 29-7n-3e, Cypress sand 1,522-60 ft., shot with 60 qt., swabbed 327 bbl. Jarvis Bros. No. 12 Homan "B", SW SW SE Section 29-7n-3e, was an abandoned location. Carter Oil Co. No. 10 M. J. Griffith, NE SW NE Section 31-7n-3e, Cypress 1,521-48 ft., 20-qt. shot 1,530-42 ft., swabbed 84 bbl. Gibson & Jennings No. 1 McDonald, SE NE SE Section 13-7n-2e, Cypress sand 1,505-59 ft., shot with 10 qt., pumped 150 bbl.

In the St. James field, Texas Co. No. 2 McKee, CS½ SW NW Section 6-6n-3e, Cypress 1,520-59 ft., shot with 10 qt., pumped 30 bbl. oil in 3 hours. Shulman Bros. No. 9 Combe, SE SW SW Section 6-6n-3e, Cypress sand 1,564-76 ft., pumped 150 bbl. oil and 15 bbl. water.

In Bond County, Bialock No. 1 J. J. Dilman, SW SE SW Section 13-6n-2w, abandoned at 1,320 after topping the St. Genevieve at 1,270 ft.

In McDonough County, DeKalb Syndicate No. 1 John F. Welch, SW SW NW Section 19-6n-2w, fourth principal meridian Niagaran 461-560 ft., abandoned at 562 ft.

In Warren County, John Menkim No. 1 Charles Simmons, SE SE NE Section 11-8n-2w, fourth principal meridian, had only a slight show of oil in the St. Peter at 1,045-50 ft. and was abandoned at 1,060 ft.

In Clay County, Pure Oil Co. No. 5 Clay City Banking Co. "A", CW½ NE SE Section 6-2n-8e, oil shows in streaks 3,007-3,114 ft., flowed 828 bbl. after 5,000-gal. acid treatment. Graham & Duncan No. 6 Land Bank, SE SW NE Section 8-2n-2e, deepened from old total depth 3,000 ft. to 3,060 ft., pumped 20 bbl. in 24 hours. The well was making 3 bbl. per day before deepening.

Marion County

In Marion County, the Salem field, Johnson Oil Co. No. 3 Cole, SE NW SE Section 16-2n-2e, McClosky 2,069-85 ft., lost tools in the hole, acidized with 2,500 gal.,

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flowed 224 bbl. Potter Bros. No. 10 M.&I.R.R. A, SE SE NE Section 16-2n-2e, McClosky 2,089-2,108 ft., acidized 2,500 gal., pumped 150 bbl. Tomerlin No. 2 Young Strip, SE NE SE Section 2-2n-2e, McClosky 1,947-2,057 ft., acidized with 4,000 gal., flowed 700 bbl. Texas Co. No. 20 Young, SE SE NE Section 20-2n-2e, Benoist 1,746 ft. and Aux Vases 1,814 ft., shot with 20 qt. in the Benoist and 60 qt. in the Aux Vases, flowed 34 bbl. in 1 hr. Texas Co. No. 19 Young, SE SE NE Section 20-2n 2e, Benoist 1,755 ft., Renard 1,790 ft., Aux Vases 1,780 ft., total depth 1,783 ft. Shot with 10 qt. in Renard and Benoist and with 71 qt. in the Aux Vases, flowed 44 bbl. in 3 hours. Haynes and others No. 1 Young Heirs Strip, SE SE SE Section 20-2n-2e, McClosky 1,942-2,059 ft., acidized with 5,000 gal., flowed 600 bbl. Shell Oil Co. No. 6-A Salem State Bank, NW SW SE Section 20-2n-2e, McClosky 1,943-64 ft., acidized with 2,000 gal., flowed 754 bbl. Hart & Hart No. 1 Young School, NE NW SE Section 20-2n-2e, an old well drilling deeper, from 1,768 ft. where it flowed 50 bbl., topped the Aux Vases 1,825 ft., total depth 1,865 ft., shot with 85 qt., pumped 300 bbl.

Magnolia Petroleum Corp. No. 43 J. H. Young, NW NW SW Section 21-2n-2e, Aux Vases 1,825-65 ft., pumped 360 bbl. Quincy Oil Co. No. 1 C. Hester, SW NW NW Section 22-2n-2e, McClosky 2,112-24 ft., perforated with 35 shots, acidized with 1,000 gal., pumped 75 bbl. oil and 10 bbl. water. Texas Co. No. 14 Lee, SW NW SW Section 28-2n-2e, Benoist 1,725 ft., Aux Vases 1,792-1,865 ft., 24-qt. shot in the Benoist and 40-qt. shot in the Aux Vases, flowed 177 bbl. in 3 hours. Ohio Oil Co. No. 18 Lloyd, NE SW SE Section 28-2n-2e, Benoist 1,787-1,833 ft., shot with 20 qt., flowed 182 bbl. in 12 hours. Texas Co. No. 1 E. Hilton, SW SE NE Section 28-2n-2e, Benoist 1,814-35 ft., shot with 10 qt., pumped 57 bbl. in 3 hours. Texas Co. No. 2 E. Hilton, NW SE NE Section 28-2n-2e, Benoist 1,821-40 ft., pumped 10 bbl. in 3 hours. Texas Co. No. 10 "A" Shanafelt, NE NE NE Section 29-2n-2e, McClosky 1,953-2,005 ft., flowed 156 bbl. in 3 hours

Texas Co. No. 6 F. Lee, SW SE NE Section 29-2n-2e, McClosky in streaks 1,950-2,023 ft., flowed 140 bbl. in 3 hours, acidized with 2,000 gal., flowed 374 bbl. in 3 hours. J. Mitchel No. 4 F. Lee, NW SE NE Section 29-2n-2e, McClosky 1,938-2,030 ft., flowed 553 bbl. in 3 hours through tubing and casing wide open. J. Mitchell No. 3 F. Lee, NW SE NE Section 29-2n-2e, Aux Vases 1,784-1,860 ft., shot with 60 qt., flowed 30 bbl. in 1 hour.

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Magnolia Petroleum Co. No. 10 J. R. Young, NE NW NE Section 29-2n-2e, McClosky 1,931-2,055 ft., acidized with 4,000 gal., flowed 1,800 bbl. Magnolia Petroleum Co. No. 17 S. Shanafelt, NE SW SE Section 29-2n-2e, McClosky 1,944-2,065 ft., acidized with 4,000 gal., flowed 4,018 bbl. Magnolia Petroleum Co. No. 16 S. Shanafelt, NE NW SE Section 29-2n-2e, McClosky 1,920-2,065 ft., acidized with 3,000 gal., flowed 3,744 bbl. Magnolia Petroleum Co. No. 14 S. Shanafelt, SE NW SE Section 29-2n-2e, McClosky 1,943-2,065 ft., acidized with 3,000 gal., flowed 1,860 bbl. Texas Co. No. 10 Stonecipher, NW SE SW Section 32-2n-2e, Benoist 1,705-52 ft., flowed 66 bbl. in 3 hours. Texas Co. No. 5 W. Sands, SW NW SW Section 33-2n-2e, Benoist 1,796-1,852 ft., flowed 224 bbl. in 24 hours. Same company No. 4 E. Farthing "C", SE SE NW Section 4-1n-2e, Benoist 1,847-80 ft., pumped 21 bbl. in 3 hours. Texas Co. No. 12 E. Tate, SE SW NW Section 5-1n-2e, McClosky 1,917-44 ft. in streaks, flowed 47 bbl. in 3 hours.

Ohio Oil Co. No. 11 R. L. Murray, NW NW SE Section 7-1n-2e, Benoist 1,777 ft. and Aux Vases 1,840 ft., total depth 1,875 ft., shot with 20 qt. in Benoist and 40 qt. in the Aux Vases, flowed 75 bbl. in 2 hours. Texas Co. No. 11 M. Bryant, NE NW SW Section 9-1n-2e, Benoist 1,858-86 ft., pumped 168 bbl. Texas Co. No. 7 J. Williams, NE NW NW Section 9-1n-2e, Benoist 1,824-56 ft., pumped 34 bbl. in 3 hours. Texas Co. No. 7 E. Luttrell, SE NE NW Section 16-1n-2e, McClosky 2,133-54 ft., acidized with 1,000 gal and reacidized with 2,000 gal., shot with 10 qt. perforated 1,911-23 ft. opposite Benoist 1,913-25 ft., pumped 29 bbl. oil and 26 bbl. water.

In the Tonti field, Arthur Harvey No. 2 "B" Kagey trustee, SW SE SE Section 33-3n-2e, McClosky 2,121-36 ft., 2,140-52 ft., and 2,162-65 ft., casing at 2,197 ft., total depth. Perforated with 96 shots 2,121-33 ft. and 56 shots 2,148-55 ft., flowed 756 bbl. in 18 hours.

In Gallatin County, Coates and others No. 1 Green, 20 ft. from S and 40 ft. from W line SW Section 16-9s-9e, plugged back from 2,711 ft. to 2,560 ft., set whipstock at 1,763 ft., drilled through the casing at 1,762 ft., shot with 40 qt. 1,772-92 ft., pumped 30 bbl. oil and no water.

In Jefferson County, W. R. Curry No. 1 H. H. Peterson, SE SE SE Section 23-2s-1e, Aux Vases 2,129 ft., was dry, Fredonia at 2,298 ft., and abandoned at 2,342 ft. Magnolia Petroleum Co. No. 1 E. L. Severs, SW SE NW Section 22-2s-1w, McClosky 2,261-70 ft., total depth 2,282 ft., shot the Rosi Clair 2,205-49 ft. with 40 qt. but obtained no production and test was abandoned. Shell Oil Co. No. 1 Jefferson Oil & Gas, NE NE SW Section 32-3s-2e, McClosky 2,671 ft., St. Louis 2,747 ft., drill-stem test 2,867-2,903 ft., recovered only mud and the well was abandoned at 2,903 ft.

In Wabash County, Magnolia Petroleum Co. No. 1 W. W. Meredith, SW SW NE Section 30-2s-13w, Ste. Genevieve 2,794 ft., Rosi Clair 2,822 ft., total depth 3,058 ft., was dry and abandoned.

Wayne County

In Wayne County, Carl Robinson No. 4 Carson Oakley, NE SE NE Section 34-2s-8e, McClosky 3,396-3,405 ft., flowed 500 bbl. A. P. Muhlbach No. 1 Garrison, C E½ SW SW Section 35-1n-8e, topped Fredonia 3,077 ft., drilled to 3,128 ft., ran Schlumberger and was dry and abandoned. Carl Robinson No. 3 Joe Felix, SW NW NW Section 35-2s-8e, McClosky 3,398-3,430 ft. in streaks, flowed 1,500 bbl. Pioneer Drilling Co. No. 1 Cuthbertson, NW SE NE Section 33-2s-7e, Fredonia at 3,315 ft., show of oil in streaks 3,326-3,406 ft., abandoned 3,415 ft. Carl Robinson No. 1 Leach, NW SW NW Section 14-2s-8e, Rosi Clair 3,320 ft., Fredonia 3,358 ft., dry and abandoned at 3,364 ft. Carl Robinson No. 1 Carter, SE NE NW Section 15-2s-8e, Fredonia 3,280 ft., McClosky 3,293-3,325 ft., perforated from Rosi Clair to McClosky and got only water; well abandoned at 3,360 ft.

In Washington County, Magnolia Petroleum Co. No. 2 Emma McConnell, SW SW NE Section 15-3s-3w, Benoist 1,275-92 ft., shot with 5 qt., pumped 24 bbl. oil and 29 bbl. water. Shell Oil Co. No. 9 Holston, NW NW NE Section 22-3s-3w, Benoist 1,265-94 ft., shot with 21 qt., pumped 57 bbl. in 24 hours with no water showing. Magnolia Petroleum Co. No. 10 A. W. Francis, NE SW NE Section 22-3s-3w, Benoist 1,286-1,300 ft., shot with 10 qt., pumped 63 bbl. with no water. J. McIlvain No. 1 Piefer, SE NW NE Section 32-1s-5w, abandoned at 105 ft.

In Pike County, Apex Drilling Co. No. 1 Weaver, SE NE NE Section 25-3s-4w, fourth principal meridian, abandoned at 1,025 ft.

In Perry County, Stevens & Ward No. 1 Albers, SE SE SE Section 32-4s-2w, Menard sand 755 ft., abandoned at 830 ft.

In Williamson County, Ray Shipman and others No. 1 Chammers, NW SW SW Section 21-9s-2e, Palestine 1,295 ft., abandoned at 1,363 ft.

In White County, Superior Oil Co. No. 1 S. Storm, SW SW NW Section 15-5s-14w, Aux Vases 2,935 ft., Fredonia 2,970 ft., obtained no McClosky to a depth of 3,040 ft., ran electrical log and abandoned.

WESTERN KENTUCKY

OWENSBORO, Ky., July 24.—A small crop of completions was reported from western Kentucky fields in the past week, led by a 200-bbl. and a 150-bbl. well in the Utica district and a 150-bbl. well in the Birk City field.

W. E. Hupp, Chester Oil Co. and Ashland Oil & Refining Co. have rotary rig up for a test on the Nannie Almon lease near Island, in McLean County. It is close to a well completed in March and which is still flowing at the rate of 48 bbl. per day. Also in McLean County H. H. Schwartz was setting casing in No. 1 Traylor-Frisse, 3 miles southwest of Beech Grove. The well will be drilled to a total depth of 1,235 ft. in McClosky lime. The owners expect to complete a well good for better than 175 bbl. a day, with a maximum estimate of 400 bbl.

Hart & Hart were plugging back to the Jett sand in No. 1 Nantz after having found McClosky lime with only a noncommercial oil showing.

Following were the completions and the new operations reported during the past week:

Breckinridge County, McQuady district, Ralph H. Grant No. 1 DeJarnett, drilling at 350 ft.

Christian County, Crofton district, Garland Moore No. 1 E. M. Leitchfield, location.

Daviess County, Utica district, Farmer & Chenault No. 2 J. E. Brown, 200-bbl. well from Jones sand, total depth 1,354 ft. Ohio Oil Co. No. 3 Steve Combs, rigging up. J. C. Miller, trustee, No. 4 Gus Morgan Estate, 100-bbl. well from Jett sand, total depth 1,150 ft. Birk City district, W. E. Hupp and others No. 1 William Gregory, dry hole, total depth 1,990 ft. Major Oil Co. and Palmer Drilling Co. No. 7 Mirilda Wahl, 150-bbl. well from McClosky lime, total depth 1,898 ft.

Hancock County, Pellville district, C. D. Walker No. 1 Ashworth heirs, dry hole, total depth 397 ft. McDonough & Co. No. 2 Ada Harris, dry hole through McClosky lime, total depth 935 ft. Duke's School district, William Flesher and others No. 1 George Newman (mineral reserve), shut down at 100 ft.

Logan County, Diamond Springs district, Wickland Development Co. and others No. 1 R. V. Purvis, dry hole, total depth 1,686 ft., may drill deeper.

Meade County, Big Springs district, J. R. Mace and others No. 1 A. M. Hardaway, dry hole through Corniferous lime, top of lime 1,021 ft., total depth 1,182 ft.

Muhlenberg County, Ennis district, William Heard and others No. 1 J. Arrendell, dry hole, total depth 555 ft.

Ohio County, Oklahoma district, A. Teller, trustee, No. 1 Lillie Bean, drilling at 500 ft. Beaver Dam district, Mrs. B. Linville and others No. 1 Mary Hudson, location. Taffy district, Ohio Oil Co. No. 26 J. M. Kirk, dry hole, total depth 370 ft.

OHIO

NEWARK, Ohio, July 25.—Ohio fields covered by this report yielded 14 gas wells, 2 oil wells, and 4 dry holes. The sub-Trenton test in Wood County proved a failure, being carried 392 ft. under the Trenton. Activity in the Newark pool in Licking County continues. Three fair Clinton sand gas wells were completed. In Newark Township, Hazlett and others No. 1 J. A. Darling, northeast part of first quarter, gaged 2,800,000 cu. ft. open flow at 2,540-67 ft. Mary Ann Township, W. Davidson and others No. 2 J. E. Mathews, Section 25, has an open flow of 2,000,000 cu. ft. of gas from sand at 2,578-2,609 ft. In Madison Township, W. Davidson and others No. 1 True Hankinson, Section 5, made 1,760,000 cu. ft. open flow from sand at 2,596-2,631 ft.

In Ashland County, Lake Township, Ol Phelps No. 2 H. W. Mosher, Section 22, is a small gas well in the Berea sand at 628 ft.

In Athens County, Ames Township, D. T. Orndoff No. 1 H. H. Howard, Frac. Section 24, made 83,000 cu. ft. of gas in the second Berea at 1,383-93 ft. In Lodi Township, C. P. Bowman No. 6 James Rogaski, Section 17, gaged 700,000 cu. ft. open flow from the second Cow Run sand at 754-60 ft.

In Cuyahoga County, Independence Township, Tract 2, Lot 16, Daugherty & Kime No. 1 Joseph Kunzer has an open flow of 212,000 cu. ft. of gas from Clinton sand at 2,945-93 ft.

In Holmes County Washington Township, Ohio Fuel Gas Co. No. 5 F. E. Heffelfinger, Section 18, is good for 500,000 cu. ft. from the Clinton sand at 2,799-2,836 ft.

Knox County has three Clinton sand completions. In Howard Township, H. E. Perkins No. 1 Isabelle Robinson, Lot 5, third quarter, gaged 1,200,000 cu. ft. of gas at 2,490-2,512 ft. In Union Township, Upham Gas Co. No. 1 Harvey Mizer, Section 7, was dry and abandoned at 2,960 ft.

In Monroe County, Sunsbury Township, H. B. Walker Co. No. 1 Lewis Shriver, Section 27, has 74,000 cu. ft. of gas from the Berea sand at 2,214-20 ft.

In Medina County, Chatham Township, L. B. Curtis and others No. 6 Harry Gunder, Lot 23, Tract 16, made 8 bbl. of oil the first 24 hours after a shot in the Berea at 343-55 ft. In York Township, Loran Wilt No. 1 Edward Burnham, Lot 24, is a small Berea sand gas well, total depth 499 ft.

In Stark County, Plain Township, C. W. White and others No. 1 Benton Miller, Section 4, is a gas well in the Clinton gaging 2,200,000 cu. ft., from sand at 4,533-64 ft.

In Noble County, Beaver Township, W. R. Corey No. 1 Willard Lashley, Section 30, found the Berea sand broken and dry, total depth 1,563 ft. In Wayne Township, Yoker Valley Oil & Gas Co. No. 1 D. M. Long, Section 28, gaged 320,000 cu. ft. of gas open flow from the Berea at 1,499-1,506 ft.

In Washington County, Aurelius Township, Ed Kline No. 8 D. B. Tropy, Section 21, made 10 bbl. of oil the first 24 hours after a shot from the Berea at 1,618-28 ft. In Ludlow Township, Ewers & Johnson No. 1 Amanda Knowlton, Section 9, is dry in the first Cow Run sand, total depth 485 ft.

Lima Field

The Sun Oil Co. completed another test in the exploration of the sub-Trenton horizons. In Wood County, Plain Township, No. 1 Henry Cross, Section 13, has been abandoned at 392 ft. under the Trenton without encountering any commercial showings. Drilling was stopped at 2,185 ft. in a brownish gray sharp sand, with 1,500 ft. of water in the hole. The Trenton was logged at 1,115-1,793 ft.; green dolomite 1,793-1,802 ft.;

(Continued on Page 207)

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Deep Pecos Ordovician Test; Jones County Wildcat Fails

By
D. H. STORMONT

FORT WORTH, Tex., July 24.—Northern Pecos County's several closely-watched wildcat tests centered attention in the West Texas district as the week closed. One is a deep Ordovician projected wildcat 4 miles southwest of Imperial and another is a new half-mile west extension to an oil pool opened only a few months ago.

West Central Texas got a severe setback when an important wildcat on the Palo Pinto trend through Jones County was abandoned at a total depth of 3,505 ft.

Magnolia Petroleum Co. No. 2 Abell-Eaton, Section 23, Block 3, H.&T.C. Survey, Pecos County Ordovician wildcat test 4 miles southwest of Imperial is showing for a possible Ordovician pool opener. The test topped the Ellenburger of Lower Ordovician at 5,120 ft., which was also the base of the Permian. The Simpson of Middle Ordovician was entirely missing as it was in the Apco pool opener, Anderson-Prichard Oil Corp. and Monte Warner No. 1 M. I. Masterson, 8½ miles to the southeast. The wildcat then drilled to 5,160 ft. and cored from 5,160 to 5,166 ft., recovering 5 ft. of very porous dolomite. As the week closed the operator was preparing to run a drill-stem test at 5,166 ft., total depth.

Prior to topping the Ordovician several sections of saturation without porosity have been encountered in the lower Permian section, but the two necessities for West Texas production have not yet been found in the same section. This wildcat is 6 miles southwest of Magnolia Petroleum Co. and Tex-Mex Oil Co. No. 1-A J. H. McKee, deep failure which topped the Simpson member of Ordovician at 4,775 ft.

Further Ordovician development was seen in the northern part of the county when Magnolia Petroleum Co. began work at its No. 1 M. I. Masterson, southwest offset to Anderson-Prichard Oil Corp. and Monte Warner No. 1 Masterson, discovery well in the deep Ordovician producing Apco pool in the heart of the old Masterson pool. It will be a 4,600-ft. rotary test and is in the eastern corner of Section 104, Block 10, H.&G.N. Survey.

In southeastern Ward County, Gulf Oil Corp. is drilling below 2,343 ft. at its No. 5 Wristen Bros., scheduled Ordovician test in the west part of Section 18, Block 5, H.&T.C. Survey.

Lehn Extension

Also in Pecos County and indicating a ½-mile northwest extension of the new Lehn area between the Masterson and Pecos Valley pools, H. L. Cain No. 1 Masterson-Lehn, E cor. N¼ Section 71, Block 10, H.&G.N. Survey, is cleaning out after a 40-qt. shot from 1,686 ft. to 1,718 ft. Before the shot, the hole filled 1,200 ft. with oil from 1,686-91 ft. and from 1,699 ft. to 1,722 ft., total depth.

The discovery well of the Fromme area, Culbertson & Irwin, Inc. No. 1 Ed Fromme, Section 106, Block 10, H.&G.N. Survey, Pecos County, was completed for official gage of 43.6 bbl. of oil and 5 per cent water in 24 hours. It topped pay at 1,405 ft. and is bottomed at 1,445 ft., plugged back from 1,474 ft.

Contract has been awarded to M. P. Stewart for drilling J. D. Bodkins No. 1 Foster, wildcat test 5½ miles south of the Foster pool in Ector County, in the NE¼ Section 12, Block 43, T.&P. Survey. Diesel rotary tools are being moved in. Also in Ector County and indicating a link between the Johnson area and the North Cowden pool, Sloan & Zook No. 1 J. L. Johnson, Section 34, Block 43, T.&P. Survey, flowed 48 bbl. in 22 hours on latest gage. The well has been shot from 4,074 ft. to 4,164 ft.

Quarter-mile east extension to the north end of production in the Emma pool of southern Andrews County has been completed at Anderson-Prichard Oil Corp. No. 6 Cowden, Section 101, S.F. Survey. It gaged a daily flow of 1,222 bbl. after acidization at total depth of 4,322 ft. in lime. Extending the Fuhrman pool, also in Andrews County, ½ mile west, Magnolia Petroleum Co. completed No. 1 Jones for 99 bbl. daily from 4,355 ft. to 4,465 ft.

Northern Basin

Stanolind Oil & Gas Co. No. 1 J. B. Rayner, a wildcat on a geophysical high in the Cedar Lake area of northeastern Gaines County, as the week closed was drilling plug from 9⅝-in. casing which had been set at 2,697 ft. Total depth at that time was 2,714 ft., in anhydrite, and the operator had set the intermediate string when the test threatened to blow out after encountering high-pressure gas in the Yates at 2,700-14 ft.

The test topped first markers some 70 to 85 ft. higher than tests 4 and 6 miles to the east and west, respectively, and indicated marked thinning of the salt section by topping the Yates at 2,700 ft. This places the No. 1 Rayner 135 ft. higher on the Yates (some geologists claim 265 ft. higher) than E. L. Wilson No. 1 Scanlan 4½ miles northeast in Dawson County and 351 ft. higher than J. T. Perryman No. 1 C. H. Doak, a dry hole 6 miles to the west-northwest. Location of the Stanolind test is 660 ft. out from the southwest corner of Section 3, Block C-30, Public School land, on the east edge of Cedar Lake.

Attention in the Wasson-Denver-Bennett pool of Yoakum County was turned to the northern part of the Wasson area. Aloco Oil Co. completed its No. 3 White, Section 767, northeast edge well, which flowed 983 bbl. daily after 9,500-gal. acid treatment at total depth of 5,203 ft. A new test was staked by Eastland Oil Co. No. 2 A. B. Chandler, NW cor. SE¼ Section 767.

First natural gasoline plant for the Yoakum County pool has been started by Shell Oil Co., Inc. The company has laid foundation for the plant on its Lowe lease in the extreme southern part of Yoakum County and in Section 892. It will be constructed at an approximate cost of $1,125,000 and will have a daily capacity of about 30,000,000 cu. ft. of gas.

In the Slaughter pool of Hockley County Texas Co. No. 1-D Mallett, ½ mile east of the company's No. 1-C Mallett, a 2-mile western outpost producer, flowed 4 bbl. of fluid hourly for 24 hours after 2,000-gal. acid treatment. It is in the NE cor. Labor 15, League 42, Scurry C.S.L. Survey. Honolulu Oil Corp. No. 1-10 Mallett, south offset to a 1½-mile eastern outpost producer, swabbed 22 bbl. of oil and 46 gal. water in 16 hours after acid treatment at total depth of 5,022 ft.

WEST CENTRAL TEXAS

West Central Texas' Palo Pinto trend play throughout Jones County and northwestern Shackelford County got a severe check when G. M. Gillespie abandoned his No. 1 J. D. Samples, northern part of Section 45, D.&D.A. Survey, 4 miles southwest of the Griffin pool, at a total depth of 3,505 ft. in salt water lime. Total depth was believed to be several feet into the Palo Pinto lime horizon but no shows were encountered. The upper horizons checked considerably higher than in surrounding tests. Several thick sections were drilled immediately above the Palo Pinto lime checking that horizon extremely low and almost pinched out. About 3½ miles southwest of the dry hole, A. H. Tarver is drilling below 3,873 ft. at his No. 1 Barkley, Section 54, D.&D.A. Survey. Footage contract was reached last week and the operator has not yet encountered the Palo Pinto. About 1 mile south and 2½ miles west of the Griffin pool and about 2 miles north of No. 1 Samples failure, Jones & Stasney are drilling below 1,000 ft. at No. 1 Muehlstein, Section 28, D.&D.A. Survey.

A new outpost test ½ mile northwest of production in the Ivy pool of northwestern Shackelford County has been staked by Bert Honea and J. F. West as No. 1 William D. Martin. It is in the southeast part of Section 16, H.&T.C. Survey, its objective the Palo Pinto lime.

Caddo Lime Pool

A new Caddo lime oil pool for western Stephens County was indicated at Wittmer Oil & Gas Properties and Paige J. Knight & Guy W. Ewing No. 1 B. D. Loving, reporting an estimated 200,000 cu. ft. of gas after drilling 7 ft. into saturated lime topped at 3,490 ft. Oil rose 450 ft. in the hole when the plug was drilled and at a total depth of 3,497 ft., operators estimate the well at about 25 to 30 bbl. daily. It is in the SE cor. Section 66, Blind Asylum Lands, 3 miles southeast of the Ibex pool.

A south spread and third producer for Coleman County's Novice pool was assured at States Oil Corp. and H. O Wooten No. 3 W. R. Stockard, 1 mile west of Novice and in Section 23, T.&N.O. Survey. Oil sand was cored from 3,590-97 ft.

A production deal in Shackelford County was closed last week when J. T. Butler paid Lawson Petroleum Co. $12,500 for a 300-acre tract containing six shallow 1,100-ft. Hope lime wells. The tract is on the T. W. Lee ranch.

New pay section 500 ft. below the regular Bryson sand of Jack County has been indicated by Nelson Oil Syndicate No. 1 O. D. Birdwell, southwest part of the T. B. Riddle Survey, Abstract 1647. Test cored sand from 3,495 ft. to 3,511 ft., showing considerable saturation and some free oil.

WEST CENTRAL TEXAS COMPLETIONS

(24-hour gages)

Andrews County

A wildcat, Richmond Drilling Co. No. 1 University, dry and abandoned at total depth of 5,005 ft.

Cochran County

In the Duggan pool, Devonian Oil Co. No. 4-A-9 Duggan, 4,980-5,038 ft., 554 bbl.

Crane County

In the Dunes pool, Great Western Oil Co. No. 3-A University, 3,125-3,305 ft., 1,237 bbl.

Crockett County

In the Crockett pool, Lutex Oil Co. No. 4-17 University, 1,472-1,582 ft., 40 bbl. A wildcat, Humble Oil & Refining Co. No. 1 Matador Land & Cattle Co., dry and abandoned at total depth of 7,074 ft.

Ector County

In North Cowden field, Broderick & Calvert No. 7 Holt, 4,190-4,386 ft., 3,147 bbl. In the Cummins field, Eastland Oil Co. No. 1 H. E. Cummins, 4,155-4,205 ft., 517 bbl. In the Goldsmith pool, Gulf Oil Corp. No. 204 Goldsmith, 4,139-4,207 ft., 2,197 bbl. Llano Oil Co. No. 3 Holt, 4,130-86 ft., 924 bbl. In the Foster pool, M.B.K. Drilling Co. No. 1-D Foster, 4,222-4,320 ft., 1,591 bbl. Octagen Oil No. 2 E. N. Woods, 4,230-4,405 ft., 1,959 bbl. Sinclair-Prairie Oil Co. No. 6 Corrigan, 4,322-4,417 ft., 909 bbl. Stanolind Oil & Gas Co. No. 17 Witcher, 3,980-4,196 ft., 1,330 bbl.

Gaines County

In the Wasson field, Continental Oil Co. No. 2-50 Wasson, 4,915-85 ft., 274 bbl.

Pecos County

In the Fromme area, Colvin-Russell No. 1 Fromme, dry and abandoned at total depth of 1,555 ft. In the Pecos Valley pool, Kone Production Co. No. 10 Pecos Valley, 1,540-1,631 ft., 34 bbl. In Pecos River bed, Pecos

(Continued on Page 207)

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Among the Drilling

ALLEN & MORRIS extended the newly-opened East Mathis area, San Patricio County, Southwest Texas, approximately 9,000 ft. with the completion of Seaboard Oil Co. No. 1 Blumberg. The well was completed as a gas well in a shallower sand at 4,417-22 ft. In the meantime, a new operation was started in the La Rosa field for Coronado Corp., bringing the total number of operations in that field to three. In other parts of the Lower Gulf Coast district, four operations are reported. In Nueces County, Shield Oil Co. No. 1 Magee, a wildcat located near the town of Robstown is drilling below 6,500 ft. This well is looked upon as a possible pool opener as a drill-stem test at 5,556-82 ft. showed favorable indications. In the Luby and Agua Dulce fields, two rotaries are running for Seaboard Oil Co. and Union Producing Co., while midway between the La Rosa and Bonnieview fields, Refugio County, Phillips Petroleum Co. No. 1 Toland is drilling below 6,800 ft.

CRON & GRACEY has started another operation in the Tomball field, Harris County, Texas, for Shell Oil Co., Inc., and has another operation in the Clam Lake field, Jefferson County, for the same company. In Jackson Moore, Ahern and Cron & Gracey No. 1 Drushel is shut down. Along the Louisiana Coast, two rotaries are running, one being located in the Lake Long field, La Fourche Parish for Fohs Oil Co., and the other on a wildcat prospect in Vermilion Parish for Louisiana Land & Exploration Co.

GEORGE ECHOLS is drilling below 6,700 ft. on No. 2 Fontenot, located in the newly-opened South China field, Jefferson County, Texas. Another operation is reported in the League City field for Phillips Petroleum Co. The contractors' No. 1 Merchant Estate, an east flank test at Sour Lake, Hardin County, was abandoned.

GEORGE E. SMITH DRILLING Co. has moved in a rig for a 5,500-ft. wildcat located about 6 miles southwest of Victoria, in Victoria County, Texas.

R. Y. SMITH has started drilling operations on his No. 1 J. A. Halamicek, an outpost well located west of the Withers field in Wharton County, Texas.

JACK FRAZIER abandoned No. 2 Dr. Bergman, a wildcat located in the Goodrich area, Polk County, Texas. The well was quit in the Wilcox formation at a total depth of 7,566 ft. The rig is expected to be moved to Chambers County for a semi-wildcat about 3,500 ft. from the Seabreeze field in the H.T.&B. Survey No. 97.

FAIN DRILLING CO., Oklahoma City, is making fast time on one of its jobs in Kansas. On that company's No. 1 Johnson, SW NW NE Section 31-20-5w, the crews set surface casing on July 15, waited 72 hours for cement to set, and drilled to 2,950 ft. by July 23. The same company is drilling Continental Oil Co. No. 1 Mrs. S. J. Proctor, a Washita County, Oklahoma, wildcat located 19 miles west of Cordell, and reported at a total depth of 13,560 ft. last week. A large diesel-electric rig is being used on the wildcat.

SIMPSON & ROODHOUSE Drilling Co. had the cellar and pits dug and the location ready for the derrick on its No. 1 Lord, NW NE NW Section 3-1n-7e, Pontotoc County, Oklahoma.

COOPER DRILLING CO., Chickasha, Okla., was nearly ready to start drilling on its No. 4 McKinley, NW NE Section 23-3n-7e, Pontotoc County, Oklahoma. The pits and derrick were almost completed last week.

PORTABLE DRILLING CO. No. 1 Boyd, SW NE SE Section 29-7-5, St. Louis district in Pottawatomie County, Oklahoma, was completed last week in the dolomite for 150 bbl. a day after acid treatment. The dolomite was topped at 4,058 ft. and total depth was 4,218 ft.

FRANK BRAHANEY is the drilling contractor on a new test staked in the Slaughter field of Hockley County, West Texas. The test is the Texas Pacific Coal & Oil Co. No. 2 L. L. Lauhoff, in the northwest part of Labor 65, League 39, Maverick County School Lands. It is ⅛ mile southwest of No. 1 Lauhoff and between it and Texas Co. No. 1-B Mallett. Pits have been dug and contractor is moving in rotary equipment.

TAUBERT & McKEE DRILLING Co., Fort Worth, Tex., have indicated a new deep-pay horizon at a test drilled for Nelson Oil Syndicate in Jack County, West Central Texas. The well is No. 1 O. D. Birdwell, located in the northwest corner of the T. B. Riddle Survey, Abstract 1647. Oil sand was cored from 3,495 ft. to

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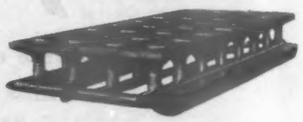

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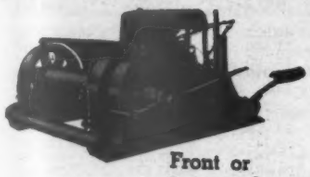

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3,511 ft. and 7-in. casing has been set at 3,486 ft. for a test. The new pay section is about 500 ft. below the regular producing horizon for Jack County.

M. P. STEWART, drilling contractor in West Texas, has been given the contract and is moving in diesel rotary equipment for a new wildcat test 5½ miles south of the Foster pool in Ector County, West Texas. The test is J. D. Bodkins No. 1 Foster, northeastern part of Section 12, Block 43, T.&P. Survey.

TARGET DRILLING CO., Wichita Falls, Tex., jointly with Snowden & McSweeney, Fort Worth, are drilling below 3,000 ft. at a recently started wildcat test 2 miles southwest of production in the Walnut Bend pool of Cooke County, North Texas. The test is the operators' No. 1 J. H. Honeycutt, in the Ford Survey, Abstract 1362. Contract depth is 5,500 ft.

TRINITY DRILLERS have been awarded the drilling contract on a wildcat test in Refugio County, South Texas. It is W. F. Houser and others No. 1 R. H. Wood, about 3 miles southeast of Woodsboro in the Dona Anasticia Reojas Survey. Location is on a farmout from the Continental Oil Co.

ROWAN & NICHOLS DRILLING Co., Fort Worth, Tex., contractors on a wildcat test on the Upton ranch southeast of San Angelo in Tom Green County, West Texas, are deepening the test after being shut down temporarily at a total depth of 5,153 ft. The test is Southern Cross Oil Co. No. 1 Upton, last reported drilling below 5,200 ft.

ROBEY DRILLING CO. has concentrated three of its Illinois rotary rigs in the Salem field. Last week they started work on the Ohio Oil Co. No. 15 Mathew Young heirs, in Section 20-2n-2e, the Texas Co. No. 5 L. E. Maxwell in Section 32-2n-2e, and the Shell Oil Co. No. 5 Farthing, also in Section 32-2n-2e. The Illinois operations are under the direction of Fred McAlpin with offices and residence in Salem, Ill.

HELMERICH & PAYNE, Tulsa, is preparing to recomplete its No. 1 Hamilton County Land Bank, SE SE SE Section 6-4s-7e, Wayne County, Illinois, after twisting off and failing to recover the fish. The hole was plugged back with cement to 2,734 ft. and a knuckle joint set at 2,757 ft. Late last week they were reported at a depth of 2,796 ft. with the hole deviating 4½° from vertical.

M. & G. DRILLING CO. was still having trouble with its No. 1 Franklin Realty Co., NE NE SE Section 26-6s-3e, Franklin County, Illinois. Drill pipe was twisted off at a total depth of 2,962 ft. and crews have been unable to get over the fish.

Part of the drilling crew on one of Carl Short's rotary rigs in the Noble-Denver field, Richland County, Illinois

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California Field Report

By
L. P. STOCKMAN

Standard May Have Opened Field to Southwest of Greeley

LOS ANGELES, Calif., July 24.—Standard Oil Co. is believed to have found a new oil field which parallels the Greeley field trend in Kern County. The discovery well, No. 12-6 Kern County Land, in Section 30-29-26, was completed flowing 1,490 bbl. of 27.1-gravity oil per day from the Rio Bravo zone, with bottom of the hole at 11,942 ft. Production of the well built up to 4,140 bbl. of clean 36.9-gravity oil and 5,500,000 cu. ft. of gas before it was shut in. The well is almost 1 mile southwest of Stevens zone production in the Greeley field, and 1,500 ft. southwest of No. 12-1 Kern County Land, a small producing well in Section 30-29-26. Proximity of No. 12-6 Kern County Land to the Greeley field indicated that it might be an extension well but in view of the status of No. 12-1 Kern County Land petroleum engineers now believe that the former well is located on an entirely separate structure. No. 12-6 Kern County Land, which failed to find the Stevens zone productive, was finished in the Rio Bravo zone with a 7-in. water string landed and cemented at 11,900 ft. and 64 ft. of 5-in. liner including 28 ft. of perforated landed at 11,941 ft. and a string of 2½-in. tubing.

Tupman—Coles Levee

Some indication should be forthcoming soon as to whether Tupman and Coles Levee are really one large structure or two of normal size. No. 14-3-B Kern County Land of Richfield Oil Corp. which should shed considerable light along this line has reached a depth of 9,201 ft. and at this point has not yet found the pay. This well is in Section 3-31-25 along the north line of the Coles Levee field and if it fails to develop commercial production it will definitely indicate that Tupman and Coles Levee are separate fields.

Montebello

The most active field in California is Montebello, where operators are running 35 strings of tools and have locations staked for 15 wells to be drilled in the immediate future. At least 20 wells are scheduled for completion before the close of another several weeks and since most of these are headed down to the eighth zone they should all show substantial production. Production of this field would be much higher if it were not for action by the California director of natural resources who recently secured a restraining order to prevent operators from producing wide open and blowing the gas to the air. During the week, Union Oil Co. completed two new wells in the eighth zone and both registered large production although the recorded initial failed to show this fact as both were beaned back as soon as finished. No. 5 Paul Howard, of Union Oil Co., was completed flowing 615 bbl. of 39.2-gravity oil and 3,240,000 cu. ft. of gas per day through an 18/64-in. tubing bean and 18/64-in. casing bean from 7,620 ft. This new well was finished with a 7-in. water string cemented at 7,370 ft. and 310 ft. of 5½-in. liner including 112 ft. of perforated landed at 7,618 ft. and cemented through perforations at 7,502 ft.

No. 4 Wilcox, of Union Oil Co., was finished flowing 695 bbl. of 37.9-gravity oil and 3,000,000 cu. ft. of gas per day from 7,648 ft. It showed a high gas-oil ratio and plenty of pressure. Union Oil Co. will start work on four additional wells in this field in the immediate future, and will suspend work as soon as all the necessary offsets have been drilled. McKeon Oil Co. picked up the top of the upper La Merced zone in No. 1 Cowan at 7,498 ft. and at 7,506 ft. the zone appears to be well saturated and to have sufficient kick to justify the expectation of securing good production. This well, which will be carried down into the lower La Merced zone, is running about 100 ft. lower structurally than No. 1 Harris of Wood-Callahan Oil Co. not more than 500 ft. to the north and west. This showing in No. 1 Cowan indicates that the southeastern end of the field may extend further eastward than originally expected.

TANKER SHIPMENTS FROM LOS ANGELES TO DOMESTIC AND FOREIGN PORTS

	July 15		July 8			
Intercoastal-domestic—	Total this week	Daily average	Total last week	Daily average	This year to date	Same time last year
Crude oil	.....	.....	70,944	10,135	381,403	345,555
Fuel oil	.....	.....	60,870	8,696	1,234,523	.....
Diesel and gas oil	.....	.....	.....	.....	163,501	.....
Gasoline	.....	.....	.....	.....	1,883,121	1,844,903
Kerosene	.....	.....	.....	.....	122,200	199,453
Foreign exports—						
Crude oil	66,163	9,452	286,454	40,922	7,913,038	13,377,184
Fuel oil	46,976	6,711	116,201	11,600	4,663,690	4,892,318
Diesel and gas oil	26,998	3,857	305,172	43,596	3,824,031	3,237,239
Gasoline	.....	.....	100,655	14,379	3,836,098	4,035,166
Kerosene	144,161	20,594	.....	.....	917,911	598,020
Lubricants	.....	.....	.....	.....	86,122	48,370
Coastwise-domestic—						
Crude oil	229,455	32,779	513,998	73,428	6,810,674	6,318,696
Fuel oil	200,430	28,633	208,216	29,745	4,944,263	5,725,324
Diesel and gas oil	30,488	4,355	54,508	7,787	1,268,519	898,534
Gasoline	214,168	30,595	732,649	104,664	8,302,752	8,301,623
Kerosene	18,712	2,673	.....	.....	206,657	145,113

TANKER SHIPMENTS FROM SAN FRANCISCO TO DOMESTIC AND FOREIGN PORTS

Intercoastal-domestic—						
Fuel oil	.....	.....	.....	.....	124,055	.....
Diesel and gas oil	.....	.....	.....	.....	69,550	178,662
Gasoline	.....	.....	.....	.....	.....	9,499
Asphalt	.....	.....	.....	.....	280,447	346,862
Lubricants	.....	.....	.....	.....	14,182	13,665
Foreign exports—						
Crude oil	252,697	36,100	.....	.....	3,078,075	3,014,005
Fuel oil	37,802	5,400	31,648	4,521	1,651,169	1,145,421
Diesel and gas oil	94,267	13,467	22,147	3,164	1,322,752	1,233,633
Gasoline	.....	.....	.....	.....	1,522,900	3,152,549
Kerosene	.....	.....	.....	.....	366,647	455,558
Asphalt	.....	.....	.....	.....	42,968	56,258
Lubricants	13,995	1,999	.....	.....	320,985	242,960
Other finished oil	.....	.....	.....	.....	352	.....
Coastwise-domestic—						
Fuel oil	170,952	24,422	288,436	41,205	3,351,650	3,489,914
Diesel and gas oil	41,618	5,945	35,912	5,130	597,759	821,869
Gasoline	163,955	23,422	201,455	28,779	4,058,057	4,024,183
Kerosene	38,922	5,560	10,159	1,451	430,760	300,839

TOTAL TANKER SHIPMENTS FROM CALIFORNIA TO DOMESTIC AND FOREIGN PORTS

Crude oil	.....	.....	70,944	10,135	381,403	345,555
Fuel oil	.....	.....	60,870	8,696	1,358,578	.....
Diesel and gas oil	.....	.....	.....	.....	233,051	178,662
Gasoline	.....	.....	.....	.....	1,883,121	1,854,402
Kerosene	.....	.....	.....	.....	122,200	199,453
Asphalt	.....	.....	.....	.....	280,447	346,862
Lubricants	.....	.....	.....	.....	14,182	13,665
Foreign exports—						
Crude oil	318,860	45,551	286,454	40,922	10,991,113	16,391,189
Fuel oil	84,778	12,111	147,849	21,121	6,314,868	6,037,739
Diesel and gas oil	121,265	17,324	327,319	46,760	5,146,783	4,470,872
Gasoline	.....	.....	100,655	14,379	5,358,998	7,187,715
Kerosene	144,161	20,594	.....	.....	1,284,558	1,053,578
Asphalt	.....	.....	.....	.....	42,968	56,258
Lubricants	13,995	1,999	.....	.....	407,107	291,330
Other finished oil	.....	.....	.....	.....	352	.....
Coastwise-domestic—						
Crude oil	229,455	32,779	513,998	73,428	6,810,674	6,318,696
Fuel oil	371,382	53,055	496,652	70,950	8,295,913	9,215,238
Diesel and gas oil	72,106	10,301	90,420	12,917	1,866,278	1,720,403
Gasoline	378,123	54,018	934,104	133,443	12,360,809	12,325,806
Kerosene	57,634	8,233	10,159	1,451	637,417	445,952

Wilmington

In the Long Beach Harbor section of the Wilmington field, Signal Oil & Gas Co. completed No. 3 S. P. flowing 95 bbl. of 21.5-gravity oil per day from the Ranger zone and 448 bbl. of clean 26.5-gravity oil daily from the upper Terminal zone. This well was bottomed at 4,210 ft. Signal Oil & Gas Co. also completed No. 4 P. D. flowing 370 bbl. of 23.8-gravity oil through a 20/64-in. bean from the Ranger zone and 265 bbl. of 26.6-gravity oil per day through a 32/64-in. bean from the Terminal zone. Long Beach Oil Development Co. completed two tideland wells, No. 8-X was brought in flowing 240 bbl. of 18.9-gravity oil per day through a 12/64-in. bean from the Ranger zone and 283 bbl. of 23.1-gravity oil through a 14/64-in. bean from the upper Terminal zone with bottom of the hole at 3,865 ft. No. 9-X of Long Beach Oil Development Co. was brought in flowing 152 bbl. of 19.7-gravity oil per day through a 30/64-in. bean from the Ranger zone and 280 bbl. of 28.3-gravity oil daily through a 14/64-in. bean from the lower Terminal zone from a depth of 3,850 ft. Richfield Oil Corp. wound up the week by completing No. 28 Pacific Dock flowing 490 bbl. of clean 22.1-gravity oil per day from the Ranger zone with bottom of the hole at 2,900 ft.

Kern County

Shell Oil Co., in the Ten Section field of Kern County, completed No. 23-28-B Kern County Land in Section 28-30-26, flowing 2,650 bbl. of clean 35.6-gravity oil and 1,580,000 cu. ft. of gas per day from the Stevens zone with bottom of the hole at 8,220 ft. This new well in which top of the productive Stevens sand was logged at 7,970 ft. was finished with a 7-in. water string landed at 8,025 ft. and the usual perforated liner.

A new well and a recompletion were finished in the North Beiridge field and another potential producer, well No. 3 of Richfield Oil Corp. in Section 22-27-20, should be tanking oil within the next few days. No. 21 of Tide Water Associated Jil Co. in Section 21-27-20 was brought in flowing 300 bbl. of 33.5-gravity oil per day on gas lift from the Eocene, with bottom of the hole at 8,523 ft. Immediately upon completion of this well, which was finished with a 7-in. water string landed at 8,270 ft., the crew was moved to No. 24 in the same section and rotary drilling equipment rigged up. Beiridge Oil Co. No. 25, in Section 26-27-20, was redrilled to 8,137 ft. and returned to production flow-

ing 1,280 bbl. of clean 32.3-gravity oil and 1,500,000 cu. ft. of gas daily through a 12/64-in. bean behind which it showed a tubing pressure of 1,450 lb. and a casing pressure of 1,200 lb. This well, which was originally bottomed at 8,500 ft., was finished at the redrill point of 8,137 ft. A large amount of casing was used as the log shows 800 ft. of 16-in. surface pipe, 5,900 ft. of 11¾-in., 8,240 ft. of 9-in., 8,131 ft. of 6⅝-in., and 8,101 ft. of 2½-in. tubing.

San Joaquin Basin

Kettleman Hills North Dome Association, known as Kenda, completed another good well in the Kettleman North Dome field when No. 2-20-Q in Section 2-20-18 in Kings County was brought in flowing 2,934 bbl. of clean 37.5-gravity oil and 8,199,000 cu. ft. of gas per day from the Tembior with bottom of the hole at 7,700 ft. This new well, which was brought in flowing through a 44/64-in. bean, showed a tubing pressure of 1,450 lb. and a casing pressure of 1,050 lb. The well has an elevation of 1,241 ft. above sea level and was finished with a 7-in. water string landed at 7,329 ft. and 397 ft. of 5¾-in. liner including 40 ft. of perforated landed at 7,694 ft. and 6,992 ft. of 3-in. tubing. A. H. Bell, of Continental Oil Co., in a letter addressed to Lawrence Vander Leck, chairman of the Central Committee of California Oil Producers, called attention to the indication that there is considerable discrepancy between the allowable of this field and other productive areas. This letter contains a statement to the effect that: "From a comparison of the allowable of Kettleman Hills with other major fields it seems to me that the crusade against Kettleman Hills that has been carried on by certain people interested in Los Angeles Basin production has resulted in an allowable being voted which is unreasonable and a poor reward to the Kettleman Hills operators for their efforts to save the state production picture by unified operation with resultant wide spacing and delayed drilling." There has been considerable criticism of Kettleman operators because of the refusal or at least failure of Kettleman North Dome Association and Standard Oil Co. to reduce their respective production to the allowables set by the Central Committee in conformity with the recently adopted uniform method of allotment. This field has been overproducing about 17,000 bbl. per day but production of the field has been curtailed to a greater degree and for a longer period of time than has been the case with any other field in the state.

Gas Fields

Buttes Oilfields, Inc., in the Marysville Buttes gas field of Sutter County, completed No. 5 Buttes flowing 20,000,000 cu. ft. of dry gas per day from a depth of 5,452 ft. It was finished with an 8⅝-in. water string landed at 5,250 ft. and 5,310 ft. of 2½-in. tubing. This structure is very large and is characterized by the existence of a volcanic intrusion which is surrounded by a ring of Cretaceous rocks. All commercial gas production to date has come from the Cretaceous around the volcanic core. Up in Solano County, north of the Rio Vista gas field, Standard Oil Co. has filed an abandonment notice on No. 1 California Packing, a wildcat drilled in Section 15-5-2. Work was stopped at 6,837 ft. and the log indicates that the top of the Markley was found at 3,020 ft. The search for commercial deposits of dry gas has slowed down very perceptibly during the past year or so and even operators holding acreage in proved fields have reduced work. Standard Oil Co. has drilled several wells in the Delano gas field of Kern County but development work on the whole is at a low ebb. South of Rio Vista, Stockton Utilities Petroleum Co. is contemplating drilling a test for gas on Rough and Ready Island in Section 15-1-5 but actual work has not yet gotten under way.

Coastal District

In the Ventura Avenue field, Shell Oil Co. got a gas well when No. 100 Taylor was put on production from a depth of 5,600 ft. as it came in flowing 8,675,000 cu. ft. of gas and 813 bbl. of clean 30.8-gravity oil per day. This new well was brought in flowing through a 2-in. bean but after it got under way the bean was reduced to 16/64-in. and this reduced the gas-oil ratio as well as the volume of oil. No. 100 Taylor was finished with a 7-in. water string and 1,189 ft. of 5½-in. liner including 1,149 ft. of perforated hung at 5,597 ft. and 4,390 ft. of 2½-in. tubing. Tide Water Associated Oil Co. completed No. 124 Lloyd flowing 1,220 bbl. of clean 30.7-gravity oil and 3,500,000 cu. ft. of gas. It was completed with a 7⅝-in. water string landed at 9,060 ft. and 1,216 ft. of 5⅞-in. liner including 1,155 ft. of perforated landed at 10,225 ft. and 8,913 ft. of 3-in. tubing. The recent completion of excellent flowing wells out on the north flank of the Ventura Avenue structure by British American Oil Co. and the Lloyd Corp. has prompted the General Petroleum Corp. to undertake some similar deep drilling. This company is rigging up rotary drilling equipment in No. 16 Barnard in Section 21-3-23 preparatory to deepening it to the 57 zone and work will start at the present bottom of the hole, 5,447 ft. The Lloyd Corp. at present has one well making hole with the deep zone as its objective and is rigging up a second project for immediate spud.

Los Angeles Basin

In the Huntington Beach field, Southwest Exploration Co. has recompleted No. 16 State pumping 210 bbl. of relatively clean 22.5-gravity oil per day from 4,580 ft. This well has an 8⅝-in. water string landed at 3,685 ft. and 887 ft. of 6⅝-in. liner including 815 ft. of perforated landed at 4,529 ft. and 3,620 ft. of 3-in. tubing. This company, having fulfilled its minimum drilling obligations which provided for adequate offset work, has slowed up the amount of drilling and will probably keep one or two strings of tools in operation during the balance of the year. In the Rosecrans field of Los Angeles County, Royalty Service Corp. has completed No. 2 Gordon flowing 120 bbl. of 32.1-gravity oil cutting 4 per cent from the O'Dea zone with bottom of the hole at 7,900 ft. This well, which extends the productive limits of the field about 500 ft. southwest, proved to be a distinct disappointment as it showed indications of being a good well during the course of work. This extension of the productive limits of the field means very little in view of the small initial production of No. 2 Gordon as these small wells would not justify the expenditure necessary to drill. This well was finished with a 7-in. water string landed at 7,737 ft. and 171 ft. of 4½-in. liner including 170 ft. of perforated landed at 7,890 ft. Operators interested in the Rosecrans field are closely watching the outcome of drilling on No. 2 Averill of King & Weymonth which is nearing the oil sand logged several weeks ago by G. F. Averill in a well that failed to result in commercial production. These wells are being drilled south of the Rosecrans field.

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Oklahoma Operations

By
DAL DALRYMPLE

Second Producer for Hobart; Start Deep Wildcat in Noble

The second test in the new Hobart pool in Kiowa County, Oklahoma, was near completion as a producer following acid treatment at Shell Oil Co. No. 1 Ratliff, SE SE NE Section 19-7-17w, west offset to the discovery well. After acidizing, it pumped 20 bbl. of oil in 2 hours, then headed and flowed 116 bbl. of oil in 4 hours, filling available tankage. Considerable gas showing with the oil was not gaged. It was shut in for pipe line connections or erection of additional tankage. There was no water showing.

Originally drilled to 1,239 ft. and getting no increase in oil, it was plugged back to 1,115 ft., and was acidized with 2,000 gal. at 1,092-1,105 ft. and with 1,000 gal. at 1,063-82 ft., pay in Pontotoc zone, found lower than in the discovery well.

The Hobart pool was opened several weeks ago at Gled Oil Co. and Russell S. Tarr No. 1 Watkins, SW SW NW Section 20-7-17w, which flowed 60 to 90 bbl. of oil an hour through tubing from 1,049-55 ft.

The area may have been partly defined by two outpost wells. C. M. Beckett No. 1 Standefer, NE NE NE Section 25-7-18w, about 1 mile southwest of the discovery, was temporarily abandoned at 1,200 ft.; and Lewis-Meyers and others No. 1 Ford, NE NE SE Section 14-7-18w, 2 miles northwest of the discovery was shut down at 1,210 ft. These two wells may be deepened.

A wildcat of considerable interest was being started at J. E. Crosbie, Inc., and others No. 1 Robbins, SW SW NW Section 6-22-2w, 4 miles southwest of the Billings pool in Noble County. Location is about 7 miles northeast of the Garber field, Garfield County, and 5 miles northwest of the Polo pool, Noble County. Wilcox sand is expected around 5,100-5,200 ft. Contract depth is 5,400 ft. Lon B. Turk and Ross L. Mayo of Oklahoma City worked up the deal and are interested in the wildcat. Derrick was being erected and drilling is scheduled to start not later than August 20.

The next Osage Indian lease sale will be held at Pawhuska, August 17. A total of 12,760 acres of Osage Indian lands will be offered to the highest bidder.

Among the Wildcats

Wildcat completions of the past week offered little to enthuse over. Johnson No. 2 Elliott, C SE NE Section 1-18-9, outpost in the Mannford area, Creek County, was bottomed at 2,365 ft. in Bartlesville sand, had a hole full of water and was abandoned.

Trigg, Gutowsky and others No. 1 Lankard, NE NE SE Section 34-17-6w, wildcat in Kingfisher County, was dry and abandoned at 8,330 ft., total depth, in second Wilcox sand. First Wilcox sand was found at 8,106-61 ft., and second sand at 8,276 ft.

Another Kingfisher County wildcat was reported abandoned at 3,510 ft., total depth. It was Hollenback and others No. 1 Zerger, C SE NW Section 5-18-6w.

Efforts of Carter Oil Co. to complete a producer at No. 1 Staggers, CWL SE NW Section 4-25-3w, Grant County, proved unsuccessful and it was abandoned at total depth of 5,528 ft. in Tyner sand. Second Wilcox sand was found at 5,270-5,384 ft. Casing was perforated at 5,321-50½ ft., but the hole filled with water and it was abandoned.

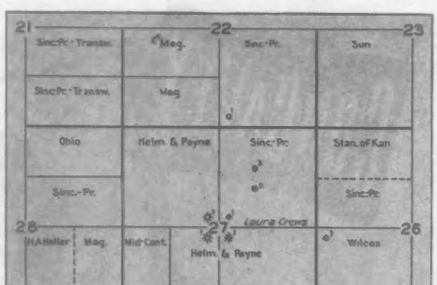
Smythe & O'Mara and others No. 1 State, C SE SW Section 16-25-4w, was the second Grant County wildcat of the week that failed to find production. It had first Wilcox sand at 5,946-70 ft.; second sand 5,996 ft., Tyner sand 6,180 ft. and was dry and abandoned in that formation at 6,215 ft., total depth.

Roy Starr No. 1 State, NE NE SW Section 13-29-2w, wildcat in Kay County, found Arbuckle lime at 4,025 ft. and was dry and abandoned at 4,075 ft., total depth.

Mason No. 1 Lindsay, SW SE SE Section 26-12-3e, old wildcat in the Meeker area, Lincoln County, originally bottomed at 5,560 ft., perforated casing at 4,365-85 ft., but failed to find oil and was abandoned.

Enterprise Drilling Co. and Morgan No. 1-A Wahl, SE NW NW Section 1-19-25w, wildcat in Ellis County, far western Oklahoma, found dry sand at 660 ft. and was abandoned at 730 ft., total depth.

New wildcats included: Hagerling No. 1 Bazman, NE NE Section 14-5-18w, northeast of Roosevelt, Kiowa County, spudded; Superior Oil Co. No. 1 School Land, NE SW Section 36-7-16w, Gotebo area, Kiowa County, location for a 2,500-ft. test; Jones, Soper and others No. 1 Kramer, NE NE NE Section 17-12-1w, northeast of Nicoma Park, Oklahoma County, cellar and pits; Johnson & Kemnitz No. 1 Godfrey, SW SE NE Section 14-6s-6e, north of the Spring pool, Jefferson County, location for a 6,000-ft. test; Litchfield & Kirksey No. 1 Schuesler, SW SE SW Section 13-6s-14, near Unger in Choctaw County, drilling below 150 ft.; Love County Oil Co. No. 1 Wilson, NW NW SW Section 14-6s-6e, Marshall County, location for 3,500-ft. test.



Midcontinent Map Co., Tulsa

Wilcox Oil & Gas Co.'s test east of the Meridian pool, in NW NW SW Section 26-16-1e, was nearing decision

Osage County

Olson Oil Co. No. 3 Soldani, CEL NW Section 24-26-4, Soldani area, western Osage County, found sand at 3,105 ft., was bottomed at 3,210 ft., and flowed 517 bbl. of oil in 6 hours, completed.

Snyder No. 2 Soldani, SE SW SW Section 13-26-4, was dry and abandoned at 3,177 ft., total depth. It had Skinner sand at 3,105 ft.

Sinclair Prairie Oil Co. No. 8 Osage, SW SE NE Section 21-25-6, South Burbank district, was bottomed at 2,738 ft. in Bartlesville sand, plugged back 2 ft., was shot and pumped 15 bbl. of oil daily.

One new location was reported in the Soldani area at Snyder No. 3 Soldani, SE SW Section 13-26-4.

Payne County

Two large producers were completed on the northwest side of production on the community block in the Ramsey pool, Payne County.

Mid-Continent Petroleum Corp. and others No. 5 Brandon, SW NE NE Section 13-18-1e, found Wilcox sand at 4,879 ft., total depth 4,891 ft. in sand, and made 24-hour potential of 9,960 bbl. of oil, accompanied by about 6,200,000 cu. ft. of gas. It flowed 430 bbl. of oil the first hour and 399 bbl. the second hour.

Same operators' No. 6 Brandon, NE NE NE Section 13-18-1e, northeast offset to No. 5 Brandon, flowed 878 bbl. of oil naturally in 3 hours, making 24-hour potential of 7,344 bbl. Production was from Wilcox sand at 4,835-54 ft., total depth.

Mid-Continent Petroleum Corp. and others No. 2 Simpson, SW SW SW Section 7-18-2e, one location north of the community block and west offset to No. 1 Simpson, first producer to be completed outside the block on the north side, was a location. Same operators' No. 11 Ramsey, NW NW NW Section 18-18-2e, offsetting producers on the east, south and west sides on the block, had dug cellar and pits.

Estimated Daily Production

Estimated daily production for Oklahoma for the week ending July 22, and for the preceding week, was as follows:

	Barrels	
	July 22	July 15
Allen	6,950	7,025
Billings	6,700	6,550
Burbank	8,100	8,050
South Burbank	9,275	9,300
Balance Osage	18,000	18,150
Blackwell district	3,950	3,975
Bristow-Slick	7,675	7,725
Chandler	1,525	1,550
Crescent	3,125	3,125
Cromwell	3,125	3,150
Cushing-Shamrock	10,075	10,150
Duncan	3,950	4,225
Edmond	4,975	5,550
Fish	5,450	5,400
Fitts	26,025	22,875
Jesse	2,525	2,325
Graham-Fox	3,550	3,875
Gray	975	950
Healdton	9,125	9,100
Hewitt	3,925	3,975
Keokuk	3,600	3,575
Konawa	1,225	1,225
Lucien	9,475	9,275
Moore	3,025	2,775
Oklahoma City	112,975	102,025
Olympic	3,075	3,125
Ramsey	4,650	4,550
Sasakwa	1,325	1,350
Sholem-Alechem	2,375	2,775
Seminole district:		
Bowlegs	8,425	8,375
Carr City	2,900	2,925
Dora	3,475	3,500
Earlsboro	5,150	5,050
South Earlsboro	525	550
East Earlsboro	4,050	4,025
Little River	7,225	7,250
East Little River	775	800
Maud	775	750
Mission	1,525	1,525
Seminole	8,200	8,225
East Seminole	1,350	1,325
Searight	2,450	2,525
Total Seminole	46,825	46,825
St. Louis-Pearson	35,500	36,725
Tatums	1,875	2,100
Tonkawa-Garber-Thomas	4,175	4,225
Wewoka	2,175	2,200
Yale-Jennings	3,650	3,625
Other pools	91,500	92,000
Total Oklahoma	466,425	455,400

Pottawatomie County

Portable Drilling Co. No. 1 Boyd, SW NE SE Section 29-7-5, St. Louis district, Pottawatomie County, was acidized and pumped 150 bbl. of oil in 24 hours. Production was from dolomite topped at 4,058 ft., total depth 4,128 ft.

Other St. Louis completions included: Jones No. 3 School Land, NW NE Section 36-7-4, dolomite 4,183 ft., total depth 4,275 ft., acidized, pumped 225 bbl. of oil in 24 hours, 10 per cent water. Ross Oil Co. No. 1-A Davis, NW NE SE Section 19-7-4, total depth 4,195 ft., plugged back to 3,640 ft., dry and abandoned; Keryn Oil Co. No. 1 Martin, NE SE SW Section 34-7-4, total depth 3,646 ft., plugged back to 3,528 ft., shot, dry and abandoned; Amerada Petroleum Corp. No. 1 Terry, NE SE Section 32-7-4, an old well deepened from 4,208 ft. to 4,338 ft., dry and abandoned;

Deep Rock Oil Corp. No. 4 Talen, SE SW Section 30-7-5, an old well deepened from 4,232 ft. to 4,312 ft., acidized, pumped 145 bbl. of oil in 24 hours, cutting 20 per cent water; Yorkan Production Co. No. 1 Williams, SE NE NE Section 6-10-4, old well in the Shawnee pool, deepened from 4,440 ft. to 4,454 ft. in Earlsboro sand, flowed 294 bbl. of oil in 24 hours.

New work in Pottawatomie County: Marshall No. 1 Manning, SE NE Section 24-6-4, location; Mudge Oil Co. No. 1 Deatheridge, NE SE Section 20-7-4, cellar and pits; Alma Oil Co. No. 3 Youts, NW SW SW Section 28-7-5, cellar and pits; Portable Drilling Co. No. 2 Boyd, NW NE SE Section 29-7-5, drilling below 3,930 ft.; same company's No. 3 Boyd, SE NE SE Section 29-7-5, cellar and pits; same company's No. 4 Boyd, NE SE Section 29-7-5, location; Tex-Oil No. 1 Bristow, SW SE NE Section 29-7-5, cellar and pits; Hicks No. 1 Sigmund, SE NE NW Section 5-10-4, set 12-in. casing at 93 ft., waiting on cement; R. Olsen Oil Co. No. 1 Lee, NE SW NW Section 5-10-4, building derrick; same company's No. 4 Gilles, SE NW NW Section 5-10-4, drilling below 4,400 ft.

Seminole County

Completions in Seminole County included Hall No. 1 Tiger, NW SE SE Section 2-8-6, Seminole city field, which pumped 130 bbl. of oil and 140 bbl. of water in 24 hours after acidizing. It had dolomite at 4,116 ft., was bottomed at 4,164 ft., plugged back to 4,148 ft.

Other Seminole County completions: Target Drilling Co. No. 1 Jones, NE NW NE Section 11-8-6, Bowlegs area, total depth 4,190 ft., perforated casing at 3,412-23 ft., shot, pumped 5 bbl. of oil in 24 hours; Wood Oil Co. No. 2 Ashby, SE NE SE Section 22-7-5, Hazel district, total depth 3,135 ft., set 5-in. casing 3,131 ft., produced 100,000 cu. ft. gas; Magnolia Petroleum Co. No. 4 Anderson, SW NW SE Section 18-9-6, an old well, plugged back from 4,365 ft. to 2,819 ft., perforated casing and pumped 138 bbl. of oil and 20 bbl. of water in 18 hours; Stanolind Oil & Gas Co. No. 1 McMahon, NE SE Section 12-9-7, Bethel area, dry and abandoned at 3,539 ft., total depth.

First reports: T. E. Iglehart No. 1 Jordan, NW SW Section 3-6-5, eastward across the county line from the same operator's St. Louis extension well in Pottawatomie County, had dug cellar and pits, as had same operator's No. 1-A Lack, SW NW Section 3-6-5, both of which, if producers, will extend the St. Louis field into Seminole County; Jones No. 1 Milsy, SW NW Section 22-7-6, cellar and pits; Winona No. 1 Tiger, SW NW SE Section 18-7-8, building rig; Texas Co. No. 4 Eliza, SW NW SE Section 19-7-8, building rig; Kerlyn Oil Co. No. 1 Rainey, SW NE SE Section 35-10-5, building rig.

Pontotoc County

Lake Oil Co. No. 4 Summers A, SW SW Section 25-5-4, Bebee district, Pontotoc County, was bottomed at 2,505 ft., set 7-in. casing at 2,408 ft., and pumped 40 bbl. of oil and 8 bbl. of water daily. Viola lime was found at 2,376 ft.

Superior Oil Co. No. 2 Summers, NW NW Section 36-5-4, was acidized and pumped 310 bbl. of oil in 24 hours. It had Viola lime about 2,376 ft., total depth 2,481 ft., and set 7-in. casing at 2,390 ft.

New operations in Pontotoc County: Magnolia Petroleum Co. No. 1 Witherspoon, NE NW Section 3-1n-7, location; Simpson-Roodhouse Drilling Co. No. 1 Lord, NW NE NW Section 3-1n-7, cellar and pits; Cooper Drilling Co. No. 4 McKinley, NW NE Section 23-2n-7, cellar and pits; Kingery No. 1 Norman, NE NW NE Section 13-5-4, spudded; Grisso No. 1 Haskins, SE SW SW Section 27-5-4, wildcat, location.

Creek County

Completions in Creek County included the following: Tibbens No. 1 Jones, SE NW Section 18-14-9, an old well in the Deep Fork area, deepened from 1,262 ft. to Prue sand, total depth 2,385 ft., shot, pumped 10 bbl. of oil in 24 hours; Scott No. 1-A Warmack, NW SW NW Section 26-17-7, Cushing field, total depth 2,818 ft., dry and abandoned; Moore No. 1 Mosquito, NW SW NE Section 20-17-9, total depth 2,630 ft., plugged back to 2,564 ft., shot, pumped 75 bbl. of oil in 24 hours from Bartlesville sand; Irelan No. 4 Farley, NE SE NE Section 13-17-10, set 6-in. casing 1,855 ft., total depth 1,890 ft. in Red Fork sand, shot, pumped 30 bbl. of oil in 24 hours; Bell No. 2 Stanley, NW SW SE Section 33-18-10, dry and abandoned at 2,662 ft. in Mississippi lime.

In the Kellyville area, Swift No. 3 Martin, SW NW NE Section 18-18-10, was bottomed at 2,050 ft. in Prue sand, was shot at 1,990-2,045 ft., and pumped 75 bbl. of oil in 24 hours.

New operations in Creek County: Von Sturm No. 1 Woods, SE NW Section 32-14-8, spudded; Brady No. 1-A Kimble, NW SW Section 33-14-10, rigging up machine; McAdams No. 2 Jacksand, SE NW SW Section 31-17-10, location.

Eastern Oklahoma

In Muskogee County, Robinson No. 1 Robinson, SE SW SE Section 18-13-16, Council Hill area, was bottomed at 2,138 ft., was shot and pumped 12 bbl. of oil in 24 hours.

Wagoner County completions: Martin No. 5 Drew, C NW SE Section 26-18-15, Oneta area, completed as pressure well at 1,033 ft., total depth; Dungan No. 3 McClure, NE NE Section 12-18-17, dry and abandoned at 271 ft., total depth, in sand; Mullin No. 1 Stone, SW NW Section 32-18-17, dry and abandoned at 1,015 ft., total depth, in Tyner sand; Sewell No. 1 Sundworth, SE Section 30-17-18, total depth 1,278 ft., 20,000 cu. ft. gas.

In Okmulgee County, Smith No. 1 Neff, SW SW Section 31-12-14, Coalton area, had a hole full of water and was abandoned at 2,975 ft. in second Wilcox sand; Anthony No. 1-A Barnett, NE SW SW Section 6-14-15, Bald Hill area, pumped 25 bbl. of oil in 24 hours from sand at 726-730 ft., total depth.

Okfuskee County

In the Okemah area, Okfuskee County, Snyder No. 12 Wind, SE SW NE Section 35-11-8, was bottomed at 1,495 ft., plugged back to 1,489 ft., was shot and swabbed 25 bbl. of oil in 24 hours.

Horrigan No. 1-A Hudson, SW SW Section 1-11-8, Dill area, was an abandoned location. Stekoll No. 1

(Continued on Page 197)

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Kansas Developments

By
DAL DALRYMPLE

Silica Extended to Northeast; New Pools in Rice, Ellsworth

The South Wherry pool in southeastern Rice County was opened the past week at E. J. Shaffer and C. L. Carlock No. 1 Bauer, C W½ SW SW Section 23-21-7w, about 1⅛ miles southeast of nearest production in the Wherry field. It made 24-hour potential of 790 bbl. of oil from conglomerate at 3,402 ft., total depth.

A productive spot in Ellsworth County was opened at I. W. Murfin and others No. 1 Loula, NW NW SE Section 28-16-10w, ¾ mile southwest of the Stoltenberg area. It made potential of 640 bbl. of oil from Arbuckle lime at 3,282-3,301 ft., total depth, after acidizing. The new area may be designated as the South Stoltenberg pool. Ewers-Simpson Oil Co. and Atlantic Refining Co. are interested in the discovery well.

The West Prusa pool was opened at M. B. Armer and Vernon Oil & Gas Co. No. 1 Hoffman, NW NW SW Section 18-16-11w, 1½ miles west of the Prusa pool. It topped Lansing lime at 3,045 ft., total depth 3,217 ft., was acidized and made potential of 527 bbl. of oil.

The Morel pool in Graham County was extended 1¼ miles northwestward at Continental Oil Co. No. 1 Clack, CEL E½ SW Section 10-9s-21w. It was reported to have made potential of 376 bbl. of oil daily from Arbuckle lime at total depth of 3,732 ft.

The continually growing Silica field was given a ½-mile northward extension on the northeast corner in Rice County at Skelly Oil Co. No. 1 P. H. Bernstorf, CSL SE SE Section 22-19-10w. It made potential of 734 bbl. of oil from Arbuckle lime at 3,282-94 ft., total depth. Location is ½ mile north of Central Petroleum Co. and others No. 1 Dippel, CNL NE SE Section 27-10-10w, which recently extended Silica nearly 1 mile northeastward. The Skelly extensioner also is about 1 mile northeast of Finston & Co.'s Lansing lime discovery well in CNL NW SW Section 27-19-10w, a recent completion. The Skelly company, which has 15 tracts of 80 acres each under lease in the extension district, has started work at No. 1 L. Bernstorf, C S½ NW SW Section 23-19-10w, ¼ mile northeast of No. 1 P. H. Bernstorf.

Wildcat Operations

B. B. & M. Drilling Co. and Howard Brunson No. 1 Esfeld, NW NW SE Section 28-16-11w, wildcat about ¾ mile southeast of the Prusa pool, Barton County, was completed for allowable initial potential of 2,750 bbl. of oil, and was classed as a Prusa extensioner. Production was from Arbuckle lime at 3,337-45 ft., total depth. It made depthograph potential of 5,189 bbl.

Wildcat failures of the past week included the following: Braden & McClure No. 1 Blehm, SW SW NW Section 11-14-14w, Russell County, total depth 3,300 ft., hole full of water, abandoned; Shell Oil Co. No. 1-A Berrick, NW NW SE Section 13-15-13w, Russell County, total depth 3,386 ft., dry and abandoned; Herndon Drilling Co. No. 1 Compton, C E½ SE NW Section 31-25-10w, Reno County, total depth 4,000 ft., dry and abandoned; C. H. Weaver No. 1 James, NE NW SW Section 25-19-10w, dry and abandoned at 3,301 ft.; James Enright and others No. 1-A Schwab, SE SW SE Section 9-24-10, Greenwood County, total depth 1,750 ft., dry and abandoned; C. L. Sheedy and others No. 1 fee, C E½ NE NW Section 13-25-12, Greenwood County, total depth 1,755 ft., dry and abandoned.

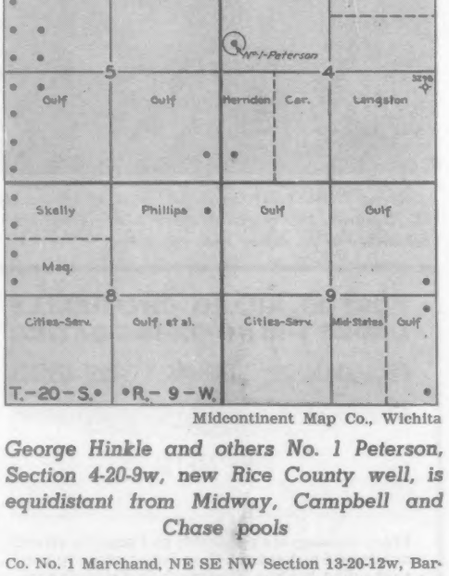
Carey Drilling Co. and others No. 1 Link, SW NW SE Section 19-19-9w, a recent completion, extended the Chase field, Rice County, ½ mile northward on the west side. It had Arbuckle lime at 3,266 ft., total depth 3,291 ft. and pumped 291 bbl. of oil in 24 hours.

Another recent extension well to be completed was Stanolind Oil & Gas Co. No. 2 Sittner, NE SW SW Section 3-22-12w, ¾ mile south of the South Sittner pool, Stafford County. It made pumping potential of 399 bbl. of oil daily after acidizing Arbuckle lime topped at 3,629 ft., total depth 3,635 ft.

Hartman, Blair & Brewer No. 1-A Brown, SE SE NW Section 33-30-4, Cowley County pool opener, was completed for potential of 612 bbl. of oil daily at 3,286 ft., total depth. Arbuckle lime was topped at 3,279 ft.

Other recent wildcat completions: K. F. Nelson No. 1 Nobak, NW NW NE Section 36-13-16w, Ellis County, total depth 3,420 ft., dry and abandoned; Sagamore Oil & Gas Co. No. 1 Squires, SE SE SW SW Section 16-14-22, Johnson County, total depth 985 ft., dry and abandoned; Broswood Oil Co. and others No. 1 Rude, NW SW NE Section 2-16-13w, Barton County, total depth 3,388 ft., dry and abandoned; Fred Jones No. 1 Habiger, NE NE SW Section 9-18-10w, Rice County, total depth 3,295 ft., dry and abandoned; Bridgeport Machine Co. No. 1 Pierce, C S½ N½ NE Section 29-20-7w, dry and abandoned at 3,743 ft.; Western Kansas Oil & Refining Co. and others No. 1 Mooreshead, SW SW SW Section 24-23-1w, Harvey County, dry and abandoned at 3,639 ft.; Elber Corp. No. 1 Martin, NE SE SE Section 34-26-7, Butler County, dry and abandoned at 2,735 ft.

New wildcats: Max Cohen and others No. 1 Sandstrum, SW SW NE Section 23-33-6, Cowley County, rigging up machine; Crown Petroleum Co. No. 1 Manny, NW NW SE Section 33-28-5, Butler County, location; Austin Reed No. 1-A Sanders, NE NE SW Section 31-25-13, Greenwood County, drilling below 840 ft.; Crown Petroleum Co. No. 1 Marchand, NE SE NW Section 13-20-12w, Barton County, location; Vickers Petroleum Co. No. 1-A Rodenberg, Section 8-18-10w, and O-Kan Drilling Co. and others No. 1 Shonyo, Section 34-18-9w, Rice County locations; S. L. Parks No. 1 Fisher, Section 25-26-1e, Sedgwick County, rig; Phillips Petroleum Co. No. 1 Glantz, Section 3-31-3e, Cowley County, rig; Ben Gralapp and others No. 1-A Clark, Section 11-31-3e, Cowley County, old wildcat being deepened; Tom Palmer No. 1 Lawson, Section 9-35-2e, Sumner County, rig.



Midcontinent Map Co., Wichita

George Hinkle and others No. 1 Peterson, Section 4-20-9w, new Rice County well, is equidistant from Midway, Campbell and Chase pools

Russell County

Completions of the past week in Russell County included: Cities Service Oil Co. No. 2 Graham, SE SE NW Section 28-14-13w, Letsch, Lansing lime 2,882-2,915 and 2,960-64 ft., pumped 535 bbl. in 8 hours, potential 1,606 bbl.; Skelly Oil Co. No. 7 Opdyke, C N½ SE SW Section 29-14-13w, Lansing 2,904-13 ft., total depth 2,934½ ft., pumped 135 bbl. oil in 8 hours, potential 402 bbl.; Aylward Production Co. No. 5 Holl, SE SE SW Section 22-14-14w, Gurney, Lansing 3,020-98 ft., pumped 878 bbl. of oil in 8 hours, potential 2,633 bbl.; Carter Oil Co. No. 2 Sellens, NE NE SW Section 17-15-13w, Coralena pool, Arbuckle lime 3,224-29 ft., total depth, pumped 54 bbl. of oil in 4 hours, echometer potential 1,898 bbl.; Continental Oil Co. No. 4 Meharg, SW SW NE Section 17-15-13w, Arbuckle 3,208-15 ft., total depth, acidized, pumped 631 bbl. in 8 hours, potential 1,894 bbl.; Carter Oil Co. No. 9 Detrich, SE cor. Section 8-15-13w, Lansing 3,070-73 ft. and 3,082-97 ft., total depth 3,388 ft., pumped 22 bbl. of oil in 2 hours and pumped off, depthograph potential 110 bbl.; Coralena Oil Co. No. 6 Sellens, C E½ W½ SE Section 29-15-13w, Trapp field, Arbuckle 3,328-3,333 ft., total depth, echometer potential 888 bbl.; Cities Service Oil Co. No. 3-D Tittle, SE SE NE Section 14-15-14w, Lansing 3,075 ft., total depth 3,345 ft., pumped 298 bbl. in 8 hours, potential 894 bbl.; Gulf Oil Corp. No. 10 Mollie, SW SW SE Section 25-15-14w, Arbuckle 3,283-90 ft., total depth, depthograph potential 3,899 bbl.; Coralena Oil Co. No. 14 Deines, SE NW NE Section 36-15-14w, Arbuckle 3,272-76 ft., total depth, echometer potential 2,388 bbl.

Recent Russell County completions: Polcyn Brothers No. 4 Polcyn, SW SW SE Section 10-14-15w, total depth 3,253 ft., depthograph potential 1,787 bbl.; Stanolind Oil & Gas Co. No. 1 Krug B, C N½ N½ SE Section 27-14-14w, extended Gurney pool ½ mile southward, total depth 2,980 ft., in Lansing lime, potential 2,231 bbl.; Stearns and others No. 1 Olson C, NW NE NW Section 27-14-14w, Gurney pool, total depth 2,993 ft. in Lansing, potential 3,192 bbl.; Cities Service Oil Co. No. 4 Tittle D, NW NE NE Section 14-15-14w, total depth 3,342 ft., potential 761 bbl.; Coralena Oil Co. No. 4 Sellens, SE SE NW Section 17-15-13w, total depth 3,200 ft., echometer potential 2,092 bbl.; W. I. Southern, Inc. No. 3 Sellens, SW SE NW Section 29-15-13w, total depth 3,300 ft., potential 1,360 bbl. by echometer; same operator's No. 2 Trapp, SW SW NE Section 29-15-13w, total depth 3,337 ft., potential 28 bbl. of oil.

Estimated Daily Production

Estimated daily production for Kansas for the week ending July 22, and for the preceding week, was as follows:

	Barrels	
	July 22	July 15
Oxford City	1,000	925
Burrton	10,225	10,325
Ritz-Canton	5,200	5,125
Graber	3,050	2,750
Hollow-Nikkel	2,375	2,425
Lerado	950	625
Voshell	1,725	1,650
Wellington	2,125	2,175
Ellsworth County:		
Lorraine	1,475	1,400
Other pools	1,590	1,840
Rice-Barton counties:		
Bloomer	2,425	1,950
Chase	4,150	4,975
Geneseo	3,425	3,450
Raymond	850	775
Silica	14,100	10,700
South Silica	2,875	2,075
Keesling	1,150	800
Wherry	3,650	3,525
Miscellaneous Rice	6,685	6,310
Miscellaneous Barton	10,155	10,120
Russell County	27,405	24,325
Sedgwick County	3,750	3,500
Ellis:		
Bemis	6,750	6,800
Miscellaneous	3,550	3,505
Kingman County	720	635
Stafford County	7,300	5,850
Greenwood County	9,050	9,100
Butler County	17,675	17,125
Other fields	22,695	21,990
Total Kansas	178,075	166,750

Cowley County

Hartman & Blair No. 10 Waite, NE SE SW Section 21-31-4, Hittle pool, Cowley County, pumped and flowed 1,424 bbl. of oil in 8 hours, and made 24-hour potential of 4,271 bbl. from Arbuckle lime at 3,302-15 ft., total

depth. McKnab & Blair's well in SE NE NW Section 28-31-4, had Arbuckle lime at 3,314-19 ft., total depth, pumped and flowed 2,147 bbl. of oil in 8 hours and made potential of 6,441 bbl.

W. M. McKnab's well in SW NE SE Section 20-32-5, Frog Hollow area, found Bartlesville sand at 3,082-84 ft., total depth, pumped 119 bbl. of oil in 8 hours and was rated potentially at 356 bbl. daily.

Recent Cowley County completions: Barnett & Connelly No. 4 Waite, SE SW SW Section 21-31-4, Hittle, total depth 3,327 ft., bomb potential 4,169 bbl. of oil; Cities Service Oil Co. No. 2 Waite, NE SW NW Section 21-31-4, total depth 3,383½ ft., bomb potential 3,333 bbl.; Texas Co. No. 2 Goodrich, SW SW SW SE Section 21-31-4, twin well, total depth 3,292 ft., bomb potential 5,690 bbl.; Trees Oil Co. No. 1-A Lewis, NW NW NE Section 28-31-4, twin well, total depth 2,025 ft., dry and abandoned; W. M. McKnab No. 2 Mokn, SE SE SW Section 16-32-5, twin well, total depth 3,091 ft. in Bartlesville sand, potential 746 bbl.; Blair and others No. 3 Dunlop, SW NE NE Section 21-32-5, total depth 3,064½ ft., potential 624 bbl.

New work in Cowley County: Barnett and others No. 5 Waite, NW NW SW Section 21-31-4, building rotary rig; Trees Oil Co. No. 2-A Lewis, SW NW NE Section 28-31-4, rigging up rotary; W. M. McKnab No. 3 Moon, NW SW SE Section 16-32-5, rigging up.

Stafford County

Stanolind Oil & Gas Co. No. 8 Hayes, C S½ NE SE Section 11-24-11w, Zenith field, Stafford County, found Misener sand at 3,733-49 ft., total depth 3,758 ft., and made bomb potential of 1,270 bbl. of oil.

York State Oil Co. No. C-5w De Malorie, C NW Section 32-22-11, Richardson area, recently was completed for 17 bbl. of oil daily at total depth of 2,011 ft.

Rice County

The following Rice County wells were completed: Continental Oil Co. No. 2-A Connery, SE NE NE Section 1-19-8w, Geneseo, Arbuckle 3,257-59 ft., pumped 413 bbl. of oil in 8 hours, potential 1,238 bbl.; Cities Service Oil Co. No. 3 Zajic, NE NE SE Section 11-18-8w, total depth 3,288 ft., dry and abandoned; Duwe & Farris No. 1 Hurt, NW NE NE Section 22-19-9w, Cramm, Arbuckle 3,236-42 ft.; total depth, acidized, pumped 236 bbl. of oil in 8 hours, potential 710 bbl.; Mid-Plains No. 1 Engelland, SE NW SE Section 15-21-7w, Wherry, conglomerate 3,278-3,385 ft., total depth, pumped 146 bbl. in 8 hours, potential 437 bbl.

Finston & Co. and others No. 1 Hathaway, C N½ NW SW Section 27-19-10w, which opened a Lansing producing horizon north of the Silica field. Rice County, several weeks ago, was completed for daily potential of 2,436 bbl. of 42-gravity oil. It had pay at 2,955-3,050 ft., total depth. Phil-Han Oil Co. and others No. 1 Peterson, ½ mile north of the Midway pool and an equal distance southwest of the Campbell pool and east of the Chase field, was completed for potential of 448 bbl. of oil from Arbuckle lime at 3,244 ft., total depth.

Barton County

Texas Co. No. 1 Luerman, NE SE SW Section 8-16-12w, Beaver pool, Barton County, pumped 152 bbl. of oil in 8 hours, making potential of 457 bbl. It had Topeka lime at 2,919-60 ft., total depth 3,337 ft.

Carey Drilling Co. and others No. 1 Perdue, SW SW NW Section 21-16-11w, was completed for potential of 58 bbl. of oil at 3,350 ft., total depth. J. P. Taylor No. 1 Kultgen, NW NW SW Section 16-16-12w, was dry and abandoned at 3,373 ft., total depth.

Ellis County

Kerlyn Oil Co. completed a well in the Bemis field, Ellis County, at No. 1 Rumsey, SE SE SW Section 23-11-17w. It found Arbuckle lime at 3,540-46 ft., total depth, and made echometer potential of 3,482 bbl. of oil.

Other recent Ellis County completions: Phillips Petroleum Co. No. 1 Hendrick, C N½ NE NE Section 13-11-18w, total depth 3,378 ft., echometer potential 3,500 bbl.; Gulf Oil Corp. No. 5 Mai, SE SE SE Section 14-11-17w, total depth 3,394 ft. in Arbuckle lime, top potential limitation 3,500 bbl., on depthograph; Shell Oil Co. No. 19 Rumsey, NW NW NE Section 23-11-17w, total depth 3,408 ft., top potential limitation 3,500 bbl., depthograph.

Cities Service Oil Co. No. 12 Rumsey, NE NE SE Section 23-11-17w, was a location.

Rooks County

In the Laton area, Rooks County, Krueger and associates completed No. 1 Tatkenhorst, SE NE SW Section

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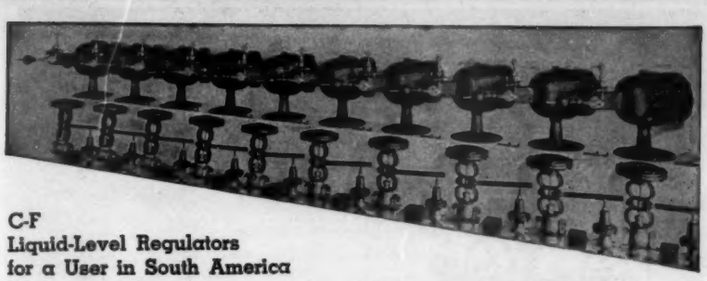
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11-9-16w, for potential of 510 bbl. of oil daily, after pumping 170 bbl. in 8 hours. It had Lansing lime at 3,234-42 ft. and 3,255-61 ft., total depth 3,328 ft.

Ellsworth County

Transwestern Oil Co. No. 1 Stumps, NW cor. Section 32-17-10w, North Habiger area, Ellsworth County, had Arbuckle lime at 3,258-77 ft., total depth, pumped 170 bbl. of oil in 8 hours, making potential of 510 bbl.

In the Edwards area, Continental Oil Co. No. 2 Baker, SW SW SE Section 21-17-8w, found Arbuckle lime at 3,277-40 ft., total depth, pumped 280 bbl. of oil in 8 hours and made potential of 841 bbl.

McPherson County

Western Kansas Oil & Refining Co. No. 2 Union Central, SW NE SW Section 18-17-1w, Roxbury pool, McPherson County, found Mississippi lime at 2,682-88 ft., total depth, pumped 199 bbl. of oil in 8 hours and made daily potential of 598 bbl.

Aylward Production Co. and others No. 2 Becker, SE SE NE Section 36-19-2w, Ritz-Canton area, had Mississippi lime at 2,961-88 ft., total depth, pumped 74 bbl. of oil in 8 hours, making potential of 222 bbl. daily.

Sedgwick-Butler Counties

Ace Oil Co. No. 1 Fortney, NE NE SE Section 21-25-1e, Goodrich area, Sedgwick County, was dry and abandoned at 3,436 ft., total depth.

Maxwell Petroleum Co. No. 9 Maxwell, NW SE NW Section 31-24-4e, a recent Butler County completion, made 100 bbl. of oil daily at total depth of 2,684 ft. A failure was recorded in Butler County at R. Wixon No. 1-A Mead, SE SE SE Section 30-24-4e, total depth 2,810 ft., dry and abandoned. Cox & McGinnis No. 1-B Thompson, NE NW SW Section 2-24-3e, was an abandoned location.

Greenwood-Marion Counties

Lykes and others No. 6 Davis, SE SW SE Section 6-24-12, Hamilton pool, Greenwood County, had Mississippi lime at 1,828-30 ft., total depth 1,832 ft., plugged back to 1,828 ft., acidized and pumped 10 bbl. of oil and 5 bbl. of water daily. Oko Oil Co. No. 17 Shadel, NW SW SW SE Section 15-23-13, Greenwood County, was completed recently for 15 bbl. of oil daily at 1,854 ft., total depth.

In Marion County, Youker & Ingers No. 1 Bucher, SW SW NE Section 28-17-4, Lost Springs area, found Mississippi lime at 2,429-32 ft., total depth, pumped 320 bbl. of oil in 15 hours and was completed for estimated potential of 350 bbl. Harwood Oil Co. No. 2 Kaufman, NE NE SE Section 27-17-4, a recent Marion County completion, made 30 bbl. of oil daily at 2,390 ft., total depth.

Katz Oil Co. No. 1-A Jackson, SW cor. Section 1-25-8, Greenwood County, was drilling below 40 ft. Harwood Oil Co. No. 3 Novak, NE NE NW Section 28-17-4, Marion County, was a location, and Lariaux & Herrington No. 1 Novak, NE NW SW Section 28-17-4, was rigging up machine.

Coffey-Woodson Counties

D. E. Dunne No. 6 Rossillon, NW SW SW Section 6-23-15, Coffey County, was completed at 1,560 ft., total depth, pumping 1½ bbl. of oil daily.

Aikman & Son No. 1 Weidle, NW NW SW Section 1-24-14, Woodson County, was completed for 7 bbl. of oil daily at 1,635 ft., total depth. Woodson Pipeline & Production Co. No. 2-A Williams, SE SW SW SE Section 7-24-14, was dry and abandoned at 1,744 ft., total depth.

Johnson-Douglas Counties

A. G. Blaumer No. 1 Jewett, SE SE SE NW Section 15-14-22, Gardner area, Johnson County, was completed recently for an estimated 10 bbl. of oil daily. OK Supply Co. and others No. 3 Knabe B, SW SW SW NE Section 15-14-22, was estimated good for 10 bbl. of oil daily at 827 ft., total depth. Spearman and others No. 2 Bigelow, NW NE NE SW Section 15-14-22, also was good for 10 bbl. daily at 842 ft., total depth.

In Douglas County, Russell Hays No. 5 Webster, SE SE SW NW Section 9-15-20, Baldwin area, was completed for 5 bbl. of oil daily at 847 ft., total depth.

Barber County

Barbara Oil & Gas Co. No. 3-A Holmes, NE NW SE Section 15-33-13w, Medicine Lodge field, Barber County, found Misener sand at 4,858-68 ft., total depth, flowed 184 bbl. of oil in 8 hours and made potential of 551 bbl. Location is ¼ mile northwest of the only other Misener sand producer in the field.

Grant County

Panhandle Eastern Pipeline Co. No. 1 Parsons, NW NW SE Section 34-30-37w, Hugoton gas field, Grant County, gage 30,888,000 cu. ft. of gas after acidizing at 2,674 ft., total depth.

The same company recently completed No. 1 Towler, C SE Section 21-30-37w, for 12,100,000 cu. ft. of gas at 2,703 ft., total depth.

Missouri Operations

TRENTON, Mo., July 24.—The Platte County well being drilled by Berry Brothers of Tulsa at No. 1 Rule, C SW SW Section 20-53-33w, held interest of operators in the Missouri sector of the Forest City basin at the week-end. It had oil showing at 1,725-35 ft. in dolomite, and technologists who examined the samples expressed a belief it possibly could be made a producer if water is properly cased off and the formation is acidized. The hole was bottomed at 1,850 ft., contract depth. The operators were conferring with others interested in the wildcat on the advisability of acidizing, but were not expected to decide until later in the week.

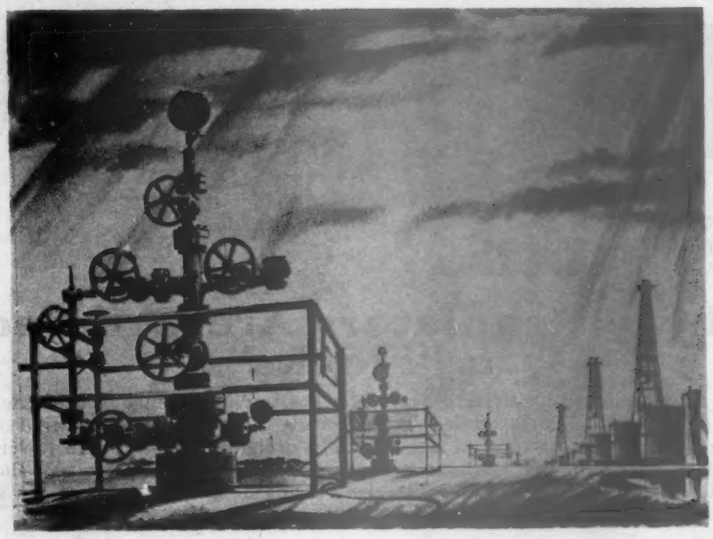
Eastern Drilling Co. No. 1 Williams, NW NW NE Section 28-53-32w, Clay County wildcat, was reported to have had a showing of oil at 1,452 ft. in Hunton lime, and drilling was suspended to set pipe.

In northeastern Missouri Wright and others No. 1 Turner, C NW NW Section 27-59-9w, Shelby County, had a showing of oil at 592-612 ft. in Cooper lime. Operations were suspended pending arrival of casing.

C. E. King and others No. 1 Willis, NE SE SE Section 13-55-32w, near Plattsburgh in Clinton County, was reported dry and abandoned at 1,886 ft., total depth, in Arbuckle lime.

A test drilled by Ben Hall and Pabelo Development Co. in NE¼ Section 35-52-32w, Clay County, was abandoned, although operator reported a 3 to 5-bbl. showing of oil at around 700 ft. He moved rig ⅝ mile southward for another shallow test.

Material was being moved in at location for the test to be drilled just east of St. Joseph, Buchanan County,



Christmas Trees — *from a lithograph by E. M. Schimetz*

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by Bob Miller and associates. Whipstock has been set at J. H. Everitt and others No. 1 Spring, SW SW SE Section 30-62-38w, and operators were preparing to drill around stuck pipe. Reports on drilling progress of other Missouri wells may be found in the wildcat section of this issue.

In the Kansas sector of the basin, Earl Wakefield and others No. 1 National Life, C NW NE Section 17-6-20, was reported to have had a hole full of salt water at 1,425 ft., and operators were drilling ahead below 1,500 ft. Operators plan to case off the water.

Oklahoma Fields

(Continued from Page 193)

Finks, NW SE NW Section 25-10-11, Weleetka district, had a hole full of water in Booch sand and was abandoned at 2,115 ft., total depth. Shaw No. 1 Douglas, NE NE Section 16-10-11, was an abandoned location.

Doak & Hughes No. 1 Community, NE SW NE Section 16-10-11, was a rig. Berry No. 1 Foreman, NW NE NE Section 1-13-10, was a location.

In Pawnee County, Johnson Oil Refining Co. No. 7 Findley, SW NE NE Section 28-20-9, Keystone area, was bottomed at 2,098 ft. in Red Fork sand, set 6-in. casing at 2,030 ft., was shot and produced 850 bbl. of oil daily.

In Garfield County, Sinclair Prairie Oil Co. No. 25 Hoy, SE NW NE Section 25-22-4w, Garber field, was completed as a 4-bbl. pumper after plugging back to 1,120 ft. from 2,190 ft., total depth.

In Lincoln County, Stanolind Oil & Gas Co. No. 3 James B, CEL SW Section 35-13-5, was building rig; Harper-Turner No. 1 May, NW SW NE Section 22-14-6, had dug cellar and pits.

Southwestern Oklahoma

McCasland No. 4 Horton, SW NW SE Section 8-3n-5w, Knox field, Grady County, was bottomed at 2,786 ft., set 7-in. casing at 2,515 ft., pumped 87 bbl. of oil in 24 hours, with gas estimated at 5,000,000 cu. ft.

In Stephens County, Carl Carter completed a 4-bbl. pumper at No. 1 Spears, NE SW Section 15-1s-5w, Velma area, total depth 388 ft.

In Tillman County, Indian Territory Illuminating Oil Co. No. 4 Dickey, NE SW NW Section 1-3s-19w, Frederick area, was bottomed at 3,101 ft., set 6-in. casing at 3,095 ft., pumped 55 bbl. of oil and 225 bbl. of water daily.

In Jackson County, Kerbow No. 1 Killingsworth, NE NE Section 1-1s-20w, Tipton pool, had granite wash at 2,608 ft., total depth 2,649 ft., and pumped 50 bbl. of oil in 24 hours.

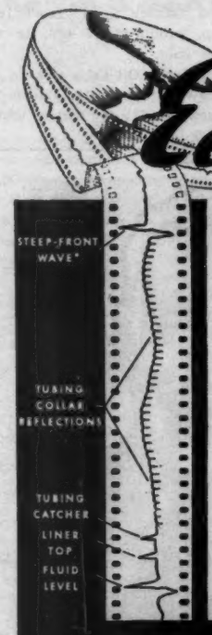
In Carter County, Sinclair Prairie Oil Co. No. 1 Holman, NE NW Section 16-4s-3w, Healdton field, was bottomed at 1,344 ft. in sand, set 7-in. casing at 1,283 ft., pumped 12 bbl. of oil daily.

Harper No. 1-A Rogers, SW NW SE Section 32-1n-19w, and Gulf Oil Corp. No. 5 Eley, C SE Section 10-1n-20w, were new operations in Jackson County.

Canadian Petroleum Imports

OTTAWA, Ont.—Imports of petroleum, asphalt, and their products into Canada in April were valued at $2,151,949 against $2,926,515 in March. Crude petroleum imports in April amounted to 45,640,730 Imperial gal., including: United States, 39,280,730 gal.; Colombia, 3,375,000 gal.; Venezuela, 2,985,000 gal. This compared with a total of 65,766,622 gal. in March.

Exports of petroleum and its products from Canada in April were valued at $15,461 against $14,213 in March.



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Muskingum Completion Best; Oriskany Wells in Kanawha

By STAFF CORRESPONDENT

PITTSBURGH, Pa., July 24.—The best completion in Southeast Ohio during the week was in Muskingum County where in the SW¼ Section 18, Harrison Township, Gas Producing Co. of Ohio completed the test on the Henry Hess farm in the Clinton sand, total depth 4,074 ft., gaging 4,500,000 cu. ft. a day after shot.

In Licking County, Allen Willey and others completed the test on the Ben Hirst farm, Section 25, Mary Ann Township, in the Clinton sand at 2,568 ft. gaging 570,000 cu. ft.

In Medina County, Preston Oil Co.'s second test on the Jesse and Glen Garver farm, Tract 16, Lot 10, Chatham Township, produced 17 bbl. in the Berea grit at 411 ft. after shot.

In Noble County, Merry Oil Co.'s test on the Adam Nau farm in the NW¼ Section 16, Enoch Township, in the Buell Run sand at 515 ft., had a light oil show but will not make a producer. In the SW¼ Section 5, Jefferson Township, All States Oil & Gas Co. completed a test on the S. C. Turner estate in the Macksburg 500-ft. sand at 815 ft., which may make a barrel a day.

In Perry County, Atha Oil Co.'s test on the Carrie Mechling farm in the SE¼ Section 7, Madison Township, went through the Clinton sand to 3,050 ft. and was dry.

In Washington County, Henning Brothers and others completed a second test on the Michael Cullen farm near Dalzell village, Section 21, Liberty Township, in the lime at 1,395 ft., producing 35 bbl., not shot.

In Cuyahoga County, Benedum & Trees deepened No. 1 J. V. Whitbeck in Highland Heights village through the Newburg sand, in which it was a gas well, to 3,723 ft. There was a red formation, possibly the formation above the Clinton sand but no white Clinton sand. Their test on the Ford lease is drilling at 2,625 ft. and on the Sowin at 2,839 ft. They have started drilling on the Society for Savings lease, same district.

SOUTHWEST PENNSYLVANIA

In Indiana County, T. W. Phillips Gas & Oil Co. completed the Clarissa Fry test in White Township at 3,192 ft., the Bradford sand, with 1,217,000 ft.

In Greene County, Equitable Gas Co. deepened No. 2735 Anna Fordyce in Gilmore Township to 2,853 ft., the Thirty-Foot sand gaging 413,000 cu. ft.

In Fayette County, Duquesne Gas Co. drilled the second test on the John P. Demaske farm in Nicholson Township to 2,621 ft. and it was dry.

In West Deer Township, Allegheny County, William Larkin and others have a rig on the G. Genther (Hays) farm. McKnight and others are drilling on the W. A. Mahan farm. These are offsets to the recent completion of Robert Marshall on John Rittman farm which came in for 35 bbl. a day.

In Elk Township, the deep test of Dempseytown Gas Co. on the George C. Wilson farm is drilling at 4,800 ft.

In Center Township, Greene County, Morgan Henderson, agent, is moving in for No. 4 John L. Metz in the Nineveh Thirty-Foot pool.

In Wayne Township, Peoples Natural Gas Co. is drilling by tools deepening No. 1 Margaret Henderson and in Springhill Township is shut down cementing the Francis Barger being deepened. In Washington Township, it is deepening No. 1 John Morris and fishing a bit.

In Amwell Township, Washington County, Moore, Orrill and others are spudding in No. 6 P. C. Winnett In North Strabane Township, Keystone Drilling Co. has a rig on the Mary W. Neil farm.

In Armstrong County, Peoples Natural Gas Co. recovered all casing above 5,826 ft. on the Lowry Martin farm in Wayne Township. A new hole will be drilled from that depth. The total depth of the old hole was 6,572 ft. in the Onondaga chert.

In Beaver County, Columbian Fuel Co. set casing to 5,003 ft. on the Abbie Linnenbrink and others farm in Rochester Township with top of the Onondaga corrected to 4,974 ft.

On Chestnut Ridge, New Penn Development Co., William E. Snee and others have the rig on the Piedmont Coal Co. lease in North Union Township.

WEST VIRGINIA

One small producer was completed in West Virginia. In Grant district, Pleasants County, O. J. Gabbert completed No. 3 W. H. Naish in the Horse Neck sand at 566 ft. good for 2 bbl. In Union district, Grant, Athey and others No. 1 M. V. Smith was deepened to the Big Injun at 1,560 ft. and was dry.

In Cabell County, R. H. Adkins, trustee, completed the Lewis Bledsoe test in Grant district with 500,000 cu. ft. of gas at 1,662 ft.

In Doddridge County, Pittsburgh & West Virginia Gas Co. completed No. 6092 J. L. Carr in Grant district, gaging 300,000 cu. ft. with a rock pressure of 86 lb. in 42 hours.

In Fayette County, Northeastern Oil & Gas Co. completed No. 4 Dietz Colliery Co. in Falls district, gaging 998,790 cu. ft.

In Gilmer County, McCall Drilling Co. drilled the S. S. Riddle test in DeKalb district to 2,606 ft. and was dry.

In Roane County, L. L. Reed and others completed the M. C. Bradley test in Harper district at 1,711 ft., gaging 200,000 cu. ft. from the Salt sand at 1,480 ft.

(Continued on Page 203)

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Rocky Mountain Area

By T. R. INGRAM

Complete West Side Producer in Loco Hills Extension Area

DENVER, Colo., July 24.—With two shallow wells recently completed and four drilling operations under way, the Rangely field in Rio Blanco County, Colorado, is the most active spot in the state. Continental Oil Co. released the location for its important wildcat on the El Dorado structure in Boulder County.

Lance Creek in Wyoming had two completions and three new operations. Continental Oil Co. No. 4 Apex-4 swabbed 106 bbl. on initial test from the Sundance, and its No. 3-B Dielman is pumping 100 bbl. per day from the Leo sand.

The A. B. Cobb test in North Cut Bank, Montana, a mile north of his big gasser, was a failure in the Cut Bank sand and is plugging back to the Sunburst.

NEW MEXICO

The Loco Hills pool in Eddy County and the Lovington area in Lea County paced southeastern New Mexico fields the past week, six new tests being started in the former and four in the latter area.

A wildcat location in Lea County was announced at B. H. Nolen No. 1 Iles, SE¼ Section 17-16-29, north of the Leonard area.

Friendship Oil Co. No. 1 State, SE SE SW Section 36-17-29, one of the larger Loco Hills producers, flowed 600 bbl. of oil in 24 hours through 2-in. tubing. It previously had flowed 332 bbl. through casing in 6 hours while running tubing. It had pay at 2,733 ft., total depth 2,754 ft.

On the west side of the Loco Hills area, Underwood & Sanders No. 1 Miller, C SE NE Section 5-18-29, had pay at 2,560 ft., and was completed at total depth of 2,620 ft., flowing 240 bbl. of oil daily through 2-in. tubing set at 2,620 ft., perforated at 2,600 ft. It was shot with 220 qt.

Two Eddy County failures were reported. C. L. Jones No. 1 Harbold, NE NE NE Section 26-17-27, found sulfur water at 540 ft., plugged back to 522 ft., and was abandoned. Texwell Corp. No. 1 Sullivan, C SE SW Section 23-18-31, bailed 2 bbl. of oil daily at total depth of 4,107 ft. in lime, but was abandoned.

The following Lea County wells were completed:

Magnolia Petroleum Co. No. 1-S State, C NE SW Section 34-16-34, wildcat in northern Lea County, was dry and abandoned at total depth of 5,690 ft.

Same company's No. 35 State-Bridges, C NE SW Section 26-17-34, Vacuum area, flowed 256 bbl. of oil in 23½ hours. Pay was topped at 4,395 ft., total depth 4,742 ft. Phillips Petroleum Co. No. 4 Hale, C SE SW Section 35-17-34, topped pay at 4,150 ft., total depth 4,678 ft., and flowed 25 bbl. of oil an hour for 6 hours. After treating, it made potential of 198 bbl. in an 8-hour test. Humble Oil & Refining Co. No. 6-K State, C SE SE Section 32-17-35, flowed 1,488 bbl. of oil daily, based on a 7-hour test, through choke on tubing set at 4,640 ft. Top of pay was 4,240 ft., total depth 4,665 ft. Gas gaged 910,000 cu. ft. daily. Ohio Oil Co. No. 3 State-Warn, C SW NE Section 33-17-35, flowed 54 bbl. of oil the second hour of a 2-hour test. Pay was found at 4,330 ft., total depth 4,550 ft. Skelly Oil Co. No. 1-P State, C NW NW Section 33-17-35, topped pay at 4,400 ft., total depth 4,655 ft., set 2-in. tubing at 4,654 ft. and flowed 208 bbl. of oil the last 4 hours of an 8-hour test.

Texas Pacific Coal & Oil Co. No. 17-A State, SE SE NE Section 11-22-36, South Eunice area, flowed 720 bbl. of oil in 24 hours through open tubing from pay topped at 3,718 ft. Total depth was 3,790 ft.

Culberson & Irwin No. 1 Martin, SE SE NE Section 31-24-37, Mattix area, found top of pay at 3,452 ft., total depth 3,540 ft., and after shooting flowed 30 bbl. of oil hourly in a 6-hour test.

Phillips Petroleum Co. No. 4 Hobbs, C SE SW Section 18-20-37, Monument pool, flowed 209 bbl. of oil in 6 hours, with 578,000 cu. ft. of gas daily. Top of pay was found at 3,750 ft., total depth 3,865 ft.

Aloco Oil Co. No. 3-B Carson, C NW NE Section 33-21-37, Hardy area, a recent completion, was bottomed at 3,760 ft., was shot and flowed 288 bbl. of oil daily, with 300,000 cu. ft. of gas. Pay was found at 3,670 ft. Magnolia Petroleum Co. No. 3 Marshall, C NW NW Section 34-21-37, had pay at 3,665 ft., total depth 3,750 ft., was shot and flowed 175 bbl. of oil in 12 hours.

Lea County

Magnolia Pet. Co. No. 2-Q State, C SE NE Sec. 36-16-36. Drlg. 1,500 ft.

Skelly Oil Co. No. 1-Q State, C SE SE Sec. 36-16-36. Loc.

L. H. Wentz No. 1-A State, C SW SW Sec. 36-16-36. W.O.C. 335 ft.

Skelly Oil Co. No. 2-O State, C NW SW Sec. 31-16-37. Drk.

Barnsdall Oil Co. No. 1 Caylor, C NW NW Sec. 6-17-37. Drlg. 2,180 ft.

Barney Cockburn No. 3-B Baish, C NW NW Sec. 28-17-32. C.&P.

Drlg. & Exploration No. 2-A State, SE SE SW Sec. 22-17-35. Drlg. 4,476 ft.

Drlg. & Exploration No. 1-E State, C SW SE Sec. 24-17-34. T.D. 4,675 ft.; F. 25 B.O.P.H.: tstg.

Humble Oil & Ref. Co. No. 7-K State, Sec. 32-17-35. Drk.

Phillips Pet. Co. No. 2 Mable, C NW NW Sec. 35-17-34. T.D. 4,655 ft.; 300 ft. F.I.H.

Phillips Pet. Co. No. 30 Santa Fe, C SW NW Sec. 26-17-35. Drlg. 1,260 ft.

Phillips Pet. Co. No. 31 Santa Fe, C SE NW Sec. 26-17-35. T.D. 1,690 ft.

Shell Oil Co. No. 3-N State, C SW NE Sec. 28-17-35. Drlg. 3,980 ft.

Paul Love No. 3 Pearsall, C NW NW Sec. 33-17-32. T.D. 3,872 ft.; 600 ft. O.I.H.

Magnolia Pet. Co. No. 37 State-Bridges, C NE SW Sec. 14-17-34. Drlg. 3,197 ft.

Magnolia Pet. Co. No. 38 State-Bridges, C NE NE Sec. 26-17-34. Drlg. 3,120 ft.

Magnolia Pet. Co. No. 39 State-Bridges, C NW SW Sec. 26-17-34. T.D. 837 ft.

Maljamar O. & G. Co. No. 2-B Baish, C NE NE Sec. 27-17-32. T.D. 3,996 ft.; W.O.C.

Maljamar O. & G. Co. No. 2 Mitchell, SW SE SW Sec. 5-17-32. T.D. 4,498 ft.; P.B. 3,862 ft.; C.O. and tstg.

Ohio Oil Co. No. 1 State-Staplin, C SE NW Sec. 19-17-35. Spdg.

Shell Oil Co. No. 2-N State, C SE NE Sec. 28-17-35. Drlg. 4,422 ft.

Standard of Texas No. 4 State Lease 5, C NE NW Sec. 27-17-35. T.D. 4,635 ft.; swb. 90 B.O. in 8 hours.

Texas Co. No. 4-N State, C NW NW Sec. 30-17-35. Drlg. 3,040 ft.

Texas Co. No. 2-V State, C NE SW Sec. 34-17-34. Drlg. 2,810 ft.

P. B. English No. 1 Miller, C NE SE Sec. 18-19-32 (wildcat). T.D. 3,800 ft.; rng. electrical survey.

Continental Oil Co. No. 7 Britt B-15, C W½ SE SW Sec. 15-20-37. R.U.R.

Danglade & Clower No. 3 Owen, NE NE SW Sec. 34-21-37. Drlg. 855 ft.

Magnolia Pet. Co. No. 6 Carson, Sec. 33-21-37. Spd.

Skelly Oil Co. No. 2-K State, C NW NW Sec. 32-21-37. Drlg. 3,210 ft.

Stanolind O. & G. Co. No. 5-C Hill, C NW NE Sec. 5-21-37. S.O.&G. 3,695 ft.: drlg. 3,780 ft.

Wilson Oil Co. No. 1 Shell-State, C NE SW Sec. 7-21-35. Spd.

Cities Service No. 1-N State, NE SE SW Sec. 2-22-36. W.O.C. 322 ft.

J. C. Clower No. 2-B Christmas, SE NE SW Sec. 28-22-37. Drlg. 2,060 ft.

Devonian Oil Co. No. 2 Christmas, SW SW SE Sec. 28-22-37. Loc.

Gulf Oil Corp. No. 7-E Mattern, SW SW NE Sec. 12-22-36. Drk.

Osage Drlg. No. 1 Christmas, NE SE SE Sec. 17-22-37. B. roads.

Peters & Elder No. 3 Brunson, SW SW SW Sec. 3-22-37. Rig.

Lem Peters No. 3 T. O. May, SW SW NE Sec. 34-22-37. Spd.

Texas Pacific C. & O. No. 18-A State, NE SW NE Sec. 11-22-36. Loc.

Anderson & Prichard No. 2 Blinebry, C SE SW Sec. 29-23-37. Rng. csg. 1,230 ft.

Culberson & Irwin No. 1 Carter, C NE NE Sec. 25-23-36. Rig.

Great Western Prod. No. 4-B Leonard, C SE NW Sec. 32-23-37. Loc.

Shell Oil Co. No. 2 Whitten, SW NE NE Sec. 20-24-37. C.&P.

Skelly Oil Co. No. 4 Simms, SW NE SE Sec. 3-23-37. T.D. 3,660 ft.; will not F.; S.D.O.

Skelly Oil Co. No. 2-A King, C NW SW Sec. 33-22-37. Drlg. 1,260 ft.

Anderson & Prichard No. 1 State B-32, SW NW SE Sec. 32-24-37. Drk.

Continental Oil Co. No. 2 Jack A-29, NE NE SE Sec. 29-24-37. Drlg. 1,710 ft.

Continental Oil Co. No. 4 Jack B-27, C W½ SE NE Sec. 27-24-37. Rig.

Gulf Oil Corp. No. 2 Carr, C SW NW Sec. 10-24-37. W.O.C. 270 ft.

C. B. King No. 2 Harrison, C NE NW Sec. 20-24-37. Drlg. 1,705 ft.

Phillips and Pure No. 8 Woolworth, C NW NE Sec. 33-24-37. W.O.C. 3,360 ft.

Repollo Oil Co. No. 4-B Whitten, NE NE SE Sec. 4-24-36. T.D. 3,765 ft.; P.B. 3,660 ft.; S.D.O.

Schermerhorn Oil Co. No. 7 Woolworth, C SE SE Sec. 28-24-37. Drlg. 3,170 ft.

Skelly Oil Co. No. 2-M State, C NW SW Sec. 32-24-37. W.O.C. 136 ft.

Weier Drlg. Co. No. 4 Woolworth, SE NW SW Sec. 28-24-37. Drlg. 3,150 ft.

Anderson & Prichard Oil Corp. No. 9 Wells, C SW NE Sec. 6-25-37. Drlg. 1,680 ft.

Anderson & Prichard Oil Corp. No. 10 Wells, Sec. 4-25-37. Loc.

Hershback Drlg. Co. No. 1 Woolworth, NE NE SW Sec. 8-25-37. C.&P.

Hershback Drlg. Co. No. 2 Burleson, C E½ SE NW Sec. 8-25-37. Drlg. 1,100 ft.

Parker Drlg. No. 1-B State, C W½ NE NW Sec. 2-25-37. Drlg. 3,075 ft.

Richmond Drlg. Co. No. 4-A State, Sec. 2-25-37. Loc.

Weiner et al No. 4 Smith, NW SE SE Sec. 4-25-37. S.D. repairs 3,455 ft.

Eddy County

G. R. Burke No. 1 State, NE NE NW Sec. 36-16-24. T.D. 1,005 ft.

Carper Drlg. Co. No. 4 Robinson, SE SE SW Sec. 25-16-31. W.O.C. 990 ft.

B. H. Nolem No. 1 Iles, SE SE SE Sec. 17-16-29. Loc.

Allen, Fair & Pope No. 4-A State, SE SW NW Sec. 36-17-29. Drlg. 2,525 ft.

Aston & Fair, Inc., No. 1 Hudson, C NE NE Sec. 18-17-31. T.D. 3,533 ft.; P.B. 3,518 ft.; S. 50 B.O.P.D.

Danciger O. & R. No. 5-A Turner, C N½ NW NW Sec. 19-17-31. R.U. mch.

R. W. Fair No. 1-B State, SE NW SW Sec. 36-17-29. Drlg. 1,690 ft.

Grayburg Oil Co. No. 1 State, NE SE SE Sec. 36-17-29. R.U. mch.

J. E. Hughes No. 3 Brooks, NE NW NW Sec. 19-17-28. Drlg. 1,395 ft.

F. G. Keyes No. 3 State, NE SW NE Sec. 9-17-28. S.O. 632 ft.; T.D. 1,210 ft.; pulling csg.

Nash et al No. 10-A Jackson, Sec. 24-17-30. Drlg.

R. L. Newberry No. 2 Saunders, NE SE SE Sec. 13-17-27. T.D. 490 ft.; S.D.O.

Plains Prod. No. 1 Daugherty (wildcat), SE SE SE Sec. 11-17-27. T.D. 428 ft.; S.D.O.

Premier Pet. Co. No. 2-F Beeson, SW SW SW Sec. 31-17-30. Drlg. 2,085 ft.

Red Lake Oil Co. No. 1 Reid, SE SW NE Sec. 20-17-28. Drlg. 1,515 ft.

Repollo Oil Co. No. 6-A Parke, NW SW NW Sec. 22-17-30. Drlg. 2,819 ft.

Republic Prod. No. 3-B Robison, SE SE SE Sec. 35-17-29. Drlg. 2,170 ft.

Standard Oil Co. No. 3 Hastie, NW SW SW Sec. 18-17-28. Loc.

Underwood & Saunders No. 2 Miller, Sec. 4-18-29. C.&P.

R. R. Woolley No. 1-B Woolley, SW SW SE Sec. 31-17-30. Drlg. 1,140 ft.

Rip C. Underwood No. 2 Langford, Sec. 9-18-29. C.&P.

H. T. Clark et al No. 1 Massie, C SW SW Sec. 27-18-29. C.O. 910 ft.

Barney Cockburn No. 1 State, C NE NE Sec. 16-18-31. Drk.

Continental et al No. 1 Brainard, NE NE NW Sec. 11-18-19. T.D. 2,701 ft.; F. 330 B.O.P.D.

Continental et al No. 1 Travis, SE SE SE Sec. 3-18-29. Rng. csg. 2,546 ft.

J. H. Steinberger No. 2 Hastie, SW SW SW Sec. 18-17-28. T.D. 566 ft.; est. 6 B.O.P.D.

Dixon & Yates No. 1-B Ballard, NE NE NW Sec. 1-18-29. Loc.

Dixon & Yates No. 2-B Ballard, NE NE NW Sec. 1-18-29. Loc.

L. E. Elliott No. 1 Elliott, SE SE SE Sec. 24-18-29. Drlg. 2,760 ft.

Etz & Cone No. 1 Nelson, SE SE NE Sec. 10-18-30. Drlg. 3,178 ft.

Franklin Pet. Corp. No. 2-A Ballard, NW NW SE Sec. 1-18-29. Drlg. 1,655 ft.

Franklin Pet. Corp. No. 1-B Ballard, NW NW NE Sec. 1-18-29. Drlg. 300 ft.

Franklin Pet. Corp. No. 1-A Yates, Sec. 6-18-30. W.O.C. 437 ft.

Farmer & Tallmadge No. 1 Hubbell, NE SW Sec. 4 18-25. Drlg. 975 ft.

Franklin Pet. Corp. No. 1 Cappedge, NW SW NW Sec. 5-18-30. Drlg. 2,929 ft.

Green Bay-Paton No. 1 Erwin, C SW SW Sec. 9-18-31. T.D. 3,186 ft.; F. 96 B.O. in 2 hrs.

E. S. McAuliffe No. 1 Coates, C SE NE Sec. 3-18-23. Rng. csg. 593 ft.

H. W. Martin No. 1 Gates, SE SE SW Sec. 15-18-30. T.D. 3,245 ft.; est. 50 B.O.P.D.; C.O.

Me-Tex et al No. 1-B Ballard, C NW NW Sec. 8-18-29. Drlg. 1,690 ft.

Me-Tex et al No. 1 Yates, C SW SE Sec. 5-18-29. T.D. 2,605 ft.; est. 240 B.O.P.D.

Plains Prod. No. 1 Swearingen, C NW NE Sec. 14-18-31. T.D. 4,330 ft.; P.B. 4,308 ft.; 150 ft. O.I.H.

Salee & Yates No. 1-B Ballard, C E½ NW NW Sec. 1-18-29. Loc.

Saunders Bros. No. 1 Travis (wildcat), Sec. 19-18-29. Drlg. 150 ft.
Saunders Bros. No. 1 Murdock, NW NW SW Sec. 4-18-29. Drlg. 175 ft.
Dixon & Yates No. 1 Saunders, NE NE NE Sec. 12-18-29. T.D. 3,200 ft.; S. 35 B.O.P.D.
Rhodes Drlg. No. 2 Swearingen, C NE NE Sec. 14-19-31 (water well). T.D. 3,535 ft.; 1,000 ft. O.I.H.
Fred Turner No. 1 Nickson, C NE NE Sec. 30-18-26. W.O.C. 1,049 ft.
Underwood & Sanders No. 1 Miller, C SE NE Sec. 5-18-29. T.D. 2,620 ft.; 1,200 ft. O.I.H.; shot.
Underwood & Sanders No. 1 Guy, SE NW NW Sec. 10-18-29. Drlg. 2,570 ft.
Underwood & Sanders No. 1 Langford, C SW SW Sec. 9-18-29. T.D. 2,565 ft.; P.B. 2,495 ft.; tstg.; est. 75 B.O.P.D.
Underwood & Sanders No. 2 Langford, NW SE SW Sec. 9-18-29. Drlg. 1,160 ft.
Me-Tex Supply Co. No. 1 State, NW NW NW Sec. 2-19-31. T.D. 3,680 ft.; 1,800 bbl. O.I.H.
Trojan Oil Co. No. 1 Grant, SW SW NE Sec. 33-20s-25e. Drlg. below 1,200 ft.
Geo. L. Roundey No. 1 Roundey, C SE SW Sec. 8-23-26. Drlg. 1,520 ft.

Chaves County

R. M. Baker No. 1 Baker, NW NW NW Sec. 19-10-30. W.O. tools.
Comanche Drlg. No. 1 Campbell, NE NE NW Sec. 15-11-26. T.D. 1,343 ft.; P.B. 1,271 ft.; acdz.; B. 5½ B.O. in 6 hrs.
Nay Hightower No. 1 Billingslea, C SW NE Sec. 28-11-30. T.D. 3,445 ft.; P.B. 3,430 ft.; shot and C.O.
New, Russell & Wood No. 1 Sterrett (wildcat), NW SE NW Sec. 29-11-25. T.D. 1,080 ft.; 400 ft. F.I.H.
Tarkenton Bros. No. 1 Peters, SE SE NW Sec. 33-11-25. S.D. 910 ft.
Western Minerals, Inc., No. 1 Dow (wildcat), C SW NW Sec. 27-10-30. Rng. cag. 3,002 ft.

Luna County

O. D. Berry No. 1 Berry, SE SE SW Sec. 33-22s-10w. Drlg. 770 ft.

NORTHWEST NEW MEXICO

Bernalillo County

Norins Realty Co., Inc., No. 2 Pajarita, Sec. 32-9n-1e. Drlg. below 1,600 ft.

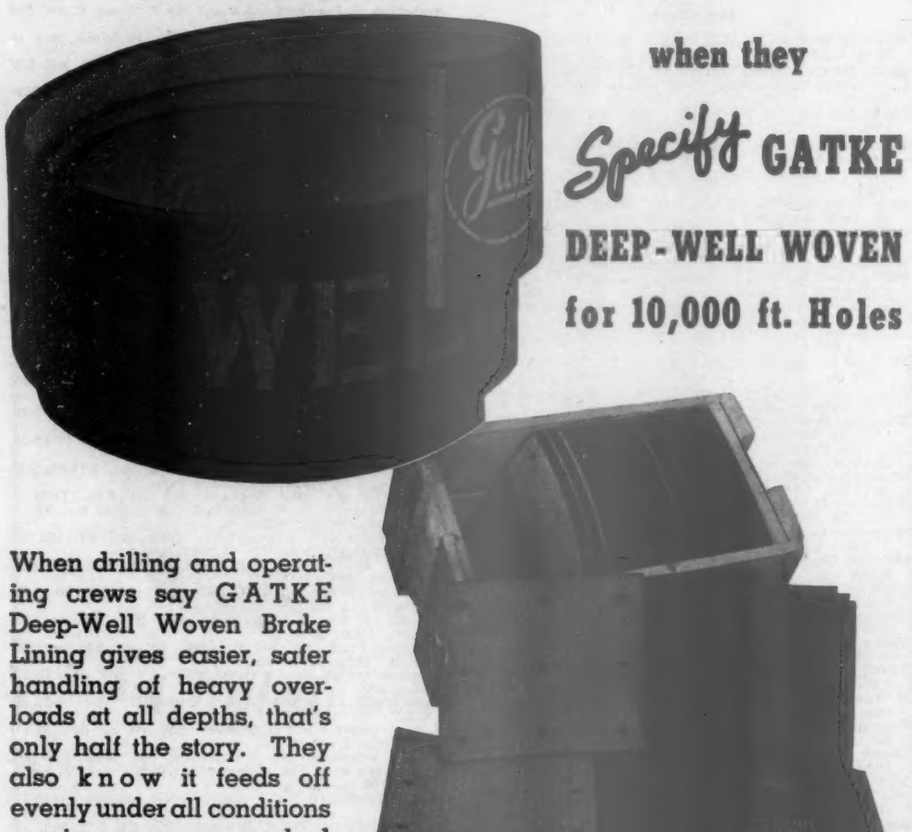
San Miguel County

Ben E. Keith No. 1 McCune, SW SE SW Sec. 32-16n-12e. S.D. 400 ft.; repairs.
Southwest Drlg. Co. No. 1 Conchas, NW NE Sec. 34-17n-21e. T.D. 2,100 ft.; fsg.

San Juan County

Continental Oil Co. No. 94 Rattlesnake, NW SW SE Sec. 2-29n-19w. T.D. 25 ft.; cmtd. 8¼-in.
Angel Peak Oil Co. No. 8 Govt., C NE SW Sec. 13-28n-11w. Drlg. 580 ft.
Al Greer No. 2 Thompson, SW SE SW Sec. 10-30n-11w. S.D. 1,125 ft. for 6⅝-in. for W.S.O.

Drillers Know What They're Talking About



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BRAKE BLOCKS AND FRICTIONS

GATKE CORPORATION 228 N. La Salle St., CHICAGO, ILL.

Wells & Noland No. 1 Govt., C NE NE Sec. 21-29n-11w. Drlg. below 80 ft.
Geo. Goodwin No. 1, NE NW NW Sec. 16-30n-11w. Drlg. sh. 1,350 ft.; H.F.W.

Torrance County

Drice Co. No. 1 Garland, NE SE Sec. 32-7n-7e. S.D. 1,996 ft. for parts.

Valencia County

C. A. Grober et al No. 1 Fuqua, NE NE Sec. 19-5n-3e. Cg. below 2,300 ft.
Joiner Oil Corp. No. 1 San Clement, C NE SE Sec. 23-7n-7e. T.D. 5,606 ft.; set whpstk.; drlg. by D.P.

COLORADO

Boulder County

Location for Continental Oil Co. deep test on the El Dorado structure was released this week in its No. 1 Borra, SE NE SW Section 5-1s-69w. Manning & Martin, Inc., contractors, will spud July 25.

Continental Oil Co. No. 1 Borra, SE NE SW Sec. 5-1s-69w. M.I.R.
J. A. Warren No. 3 Maxwell, NW NE NW Sec. 24-1n-17w. Drlg. 510 ft.
Reynolds & Rohr No. 1 Thomas, SW SW Sec. 17-1n-70w. S.D.O. 2,138 ft.; will D.D. under management of Reynolds.

Fremont County

T. E. Maloney No. 1, SE NW Sec. 34-19s-69w. Drlg. 940 ft.
Waterville Oil Co. No. 2 Persons, CWL NE NE Sec. 17-19s-69w. T.D. 143 ft.; prep. to set 8¼-in. at 140 ft.

Garfield County

Roaring Fork Oil Co. No. 1 Patterson, C NE Sec. 36-7s-88w. S.D.O. 2,574 ft.

Huerfano County

J. W. Tomkins & Sons No. 2 George, SE SE SE Sec. 3-29s-69w. S.D. 890 ft.
S. W. Pressey No. 3 Campbell, NW NW NW Sec. 11-29s-69w. Drlg. 280 ft.
E. J. Dunigan No. 1 Campbell, SW NW Sec. 2-29s-69w. Drlg. 390 ft.
Ira E. Miller No. 1 Hamilton, SE SE NW Sec. 20-29s-67w. Drlg. 890 ft.

Jackson County

W. N. W. Corp. No. 1 North Park Coal Co., NW NW Sec. 18-9n-78w. T.D. 4,100 ft.; U.R. 8¼-in.

La Plata County

Nick Splatter No. 1-X Bryce, C SW SW Sec. 32-33n-9w. T.D. 2,352 ft.; hole cleaned to bttm.; will run 6⅝-in.

Moffat County

Stanolind O. & G. Co. No. 34-SD Parkinson, SW SE SW Sec. 22-4n-92w. Cg. 3,334 ft.
Cooperative O. & G. Co. No. 1 Gossard, CWL E½ E½ Sec. 29-5n-93w. Spd. and S.D. to comp. R.U.
Steamboat Springs Synd. No. 1 Sutton, NE NE SW Sec. 1-5n-96w. T.D. 1,535 ft.; rng. 6¾-in. cave string; (formerly C. R. Privett).
J. S. Warner No. 1 Baker, NE NE SW Sec. 35-5n-96w. Drlg. 260 ft.

Montezuma County

McElmo Oil Co. No. 1 West, NE NW NE Sec. 31-36n-17w. Drlg. 5,030 ft.

Park County

South Park Oil Co. No. 1 Lemar, NE NE SE Sec. 34-11s-75w. T.D. 6,997 ft.; rng. 4½-in. to bttm.

Pueblo County

Eden O. & G. Co. No. 1 Horse Creek Ld. & Cattle, SW SE Sec. 29-19s-64w. S.D. 2,185 ft.

Rio Blanco County

In the Rangely field in western Rio Blanco County, near the Utah line, Raven Oil & Refining Co. completed its No. 23 Government, NW SW NE Section 31-2n-102w, for 12 bbl. per day of 41.5-gravity at 910 ft., and its No. 24 Government, CSL NW NE Section 31, at 961 ft. for 63 bbl. per day initial. It is drilling No. 25 Government.

The Equity company, joint with Utah Southern, now has three operations under way.

Equity Oil Co. No. 7 Govt., SW SW SE Sec. 3-1n-102w. T.D. 506 ft. in sd.; tstg.
Equity Oil Co. No. 8 Govt., Lot 12, Sec. 10-1n-102w. Loc.
Equity Oil Co. No. 14 McLaughlin, NW SE Sec. 32-2n-102w. Drlg. 136 ft.
Raven O. & R. Co. No. 25 Govt., SE NW NE Sec. 31-3n-102w. Drlg. 890 ft.
Texas Co.-California Co. No. 2 Unit, NW SE SW Sec. 27-3n-94w. Drlg. 5,374 ft.
Buford Oil Co. No. 1 Govt., C SW SW Sec. 16-1n-91w. T.D. 3,645 ft.; M.I. 6¼-in. to res.

Routt County

L. C. Craig & L. C. Moore No. 1-X Irwin, C SW NE Sec. 33-7n-85w. Res. at 1,050 ft.

WYOMING

Albany County

J. L. Gaylord-G. R. McConnell No. 1 Fuller, NW NE NW Sec. 7-15n-75w. T.D. 995 ft.; C.O. to res.

Big Horn County

Ohio Oil Co. No. 1 Syverson, Sec. 34-54n-93w (SE SW NW Lot 53). Drlg. 4,045 ft. in sat. Mad. L.; top sat. 3,997 ft.
Frank S. Scott No. 1 Robertson, SE SE SE Sec. 6-54n-93w. Drlg. 502 ft.
Mule Creek Oil Co. No. 1 Sessions, Lot 53 (NW NW) Sec. 34-56n-97w. T.D. 4,105 ft.; 7-in. cmtd. on top Madison at 4,091 ft.; acd. 1,500 and 3,000 gal.; would not flow; swbd. 30 B.P.H.; prep. to pmp.
Libby-Keoughan No. 1 Sheets, SE NE SE Sec. 9-55n-96w. T.D. 3,930 ft.; U.R. 6¼-in. from 3,820 ft.
A. L. Rankin No. 1 Karjala-Rankin, C SW NW Sec. 10-54n-94w. S.D. 835 ft. in Madison L.; 6⅝-in. landed at 793 ft. for W.S.O.

(Continued on Page 202)

North Louisiana, Arkansas

Deep Test in Columbia Field; New Wildcat East of Buckner

By GEORGE WEBER

SHREVEPORT, July 24.—Wildcats in widely scattered areas attracted attention in the tri-state district this week. Atlantic Refining Co. No. 1 Pine Woods Lumber Co., a deep Columbia County test in South Arkansas, encountered further shows of oil in the Cotton Valley formation, and is drilling for the Smackover lime, principal objective for expected production. In North Louisiana, an outpost of the Sligo field of Bossier Parish is waiting on cement with casing set on the sand, and the deep Pine Island test of Stanolind Oil & Gas Co. is under way after a fishing job. An important deep test to be drilled on the north flank of the Munroe field in Morehouse Parish was begun last week.

Experiment Wildcat

Atlantic Refining Co. No. 1 Pine Woods Lumber Co., a Smackover lime test in the Experiment area of southwestern Columbia County, Arkansas, is drilling after testing oil shows in the Cotton Valley. The drill-stem test made at 6,950-60 ft. failed, and operators cored 6 ft. of soft medium-grained oil sand between 7,135 ft. and 7,161 ft. A drill-stem test made in this section also failed to show oil, and the drill went into salt water sand at 7,149-67 ft. The test is drilling below 7,340 ft. and the Smackover is not expected for a few hundred feet. The wildcat is 10 miles southwest of the Magnolia field.

An interesting test just begun is Standard Oil Co. of Louisiana No. 1 Nancy Johnson and others, in a semi-wildcat outpost location east of the Buckner field. It is spudding and will be drilled to the Smackover formation, producing in the field to the west.

In Columbia County, activity is brisk in the Magnolia field, where 17 rigs are drilling. A second important wildcat in the county, Twin City Syndicate No. 1 J. H. Hollensworth, about 7 miles southeast of the Magnolia field, is drilling below 5,650 ft., having topped the Cotton Valley formation at 5,589 ft. It will be closely watched this week as it drills through the Cotton Valley and approaches the Smackover lime.

Union County activity, centered in the Schuler and El Dorado districts, was highlighted by several completions in the former field, and by succeeding operations beginning this week.

Sligo Outpost

H. M. Harrell and others No. 1 Thompson unit, about 1 mile southeast of production in the Sligo field, is awaiting completion attempt with casing set at about 5,700 ft. It encountered top of the Travis peak formation at 5,365 ft.,

North Louisiana's most interesting deep test, Stanolind Oil & Gas Co. No. 131 Dillon heirs, in the Pine Island field, is drilling after recovering drill stem lost at 5,245 ft., with total depth at 5,455 ft.

Union Producing Co. No. 1-A Tensas-Delta, in the NE cor. SE¼ Section 8-22-4, on the north flank of the Munroe gas field, may be carried to 9,000 ft. to explore the Smackover lime. It will be spudded shortly.

In Bienville Parish, Arkansas-Louisiana Gas Co. No. 2 Gayoso, an important deep test, is testing a hard sand at 8,532 ft. after running an electrical survey. A few weeks ago a hard sand at 8,427 ft. showed mud cut with gas on a drill-stem test.

Joaquin Gasser

In the Joaquin field of eastern Shelby County, Texas, Neal & McDaniel No. 1 C. W. McDaniel, after remaining shut down for several weeks at 6,225 ft., was perforated at 5,010-80 ft. in the porous lower Glen Rose lime formation, and was brought in through a ¾-in. choke for an estimated initial production of 30,000,000 cu. ft. of gas, together with an undetermined quantity of distillate.

NORTH LOUISIANA COMPLETIONS

Caddo—Caddo Parish

J. G. Bailey No. 2 Muslow, 672 ft. S, 396 ft. W, NE cor. SE NW Section 17-20-15, dry and abandoned, salt water 2,196 ft. Old total depth 3,058 ft. A. R. Hancock No. 2 Standard Oil, Section 18-21-15, completed pumping 20 bbl. per day, total depth 1,070 ft. Texas Co. No. 53 C. M. L. Co., Section 23-21-15, completed pumping 100 bbl. fluid per day, 56 per cent salt water. Total depth 1,635 ft.

Wildcat—Webster Parish

O. F. Shaver No. 1 Stewart, 150 ft. S, 563 ft. E, NW cor. SW NE Section 4-18-10, dry and abandoned; total depth 2,506 ft. Top Nacatoch 1,592 ft., top Blossom sand 2,425 ft.

Cotton Valley—Webster Parish

Ohio Oil Co. No. 6 Bodcaw, Account 4, 660 ft. NE cor. NW Section 13-21-10, Holloway sand 5,773-79 ft., tested dry, set 9⅝-in. casing 5,767 ft., total depth 5,855 ft., dry and abandoned.

ARKANSAS COMPLETIONS

Magnolia—Columbia County

Arkansas Fuel Oil Co. No. 1 Glasgow-Crisp, 603 ft. N 605 ft. W SE cor. NE SW Section 23-17-20, completed for 40 bbl. per hour, ¼-in. choke, tubing pressure 1,375 lb., casing pressure 1,190 lb., perforated 7,622-52 ft., gas-oil ratio 625-1, total depth 7,666 ft. Atlantic Refining Co. No. 1 J. A. Foster, C NW NE Section 24-17-20, completed for 29 bbl. per hour, ¼-in. choke, tubing pressure 1,050 lb., casing pressure 1,350 lb., perforated 7,500-90 ft., total depth 7,602 ft. Phillips Petroleum Co. No. 1 J. A. Joiner, completed for 410 bbl. per day, 10/64-in. choke, tubing pressure 1,325 lb., casing pressure 1,450 lb., perforated casing 7,630-72 ft., total depth 7,759 ft. G. H. Vaughn No. 1 L. Paschal, C SE NW Section 22-17-20, completed for 250 bbl. per day, 12/64-in. choke, tubing pressure 1,275 lb., total depth 7,520 ft.

Village—Columbia County

Standard Oil Co. of Louisiana No. 1-B Lewis unit, 660 ft. SW cor. NE NE Section 15-17-19, completed for 17 bbl. per hour, ¼-in. choke, tubing pressure 2,250 lb., casing pressure 2,600 lb.; top lime 7,360 ft., top porosity 7,390 ft., set 6-in. casing 7,430 ft., perforated 7,423-25 ft., total depth 7,430 ft.

Lewisville—Lafayette County

East Texas Refining Co. and others No. 1 Warren estate, C N½ NE NW Section 24-16-24, completed flowing 67 bbl. per day, ¼-in. choke, casing pressure 190 lb., total depth 3,584 ft. J. C. Stephens No. 1 J. G. Allen, C N½ NW NW Section 30-16-23, dry and abandoned 115 ft.

Wildcat—Lonoke County

Lonoke-Prairie Development Co. No. 1 T. Young, C NW NW Section 8-3n-7w, dry and abandoned 300 ft.

Champagnolle—Union County

Sam Sebersky No. 2-A J. N. Jerry, C SW SE SW Section 21-17-14, reperforated casing at 2,709-11 ft., abandoned after swabbing salt water; total depth 2,718 ft.

Schuler—Union County

E. M. Jones No. 1-C Murphy Land Co., Section 24-18-18, completed for 5 bbl. per hour, ¼-in. choke; tubing pressure 300 lb., casing pressure 650 lb., total depth 7,640 ft.; perforated 7,562-83 ft. Lion Oil Refining Co. No. 2 Clay, 330 ft. N, 660 ft. W SE cor. NE SW Section 12-18-18, completed for 241 bbl. per day, 10/64-in. choke; tubing pressure 600 lb., casing pressure 1,500 lb. Set 7-in. casing 7,705 ft., perforated 7,636-65 ft. Lion Oil Refining Co. No. 1 S. John, 330 ft. N, 660 ft. W SE cor. SE NE Section 12-18-18, completed for 120 bbl. per day, 12/64-in. choke; tubing pressure 560 lb., casing pressure 1,900 lb., perforated casing 7,590-7,610 ft., total depth, 7,675 ft. Phillips Petroleum Co. No. 1 Mill, 492 ft. E. 50 ft. S NW cor. S½ Lot 4, SW Section 18-18-17, completed for 237 bbl. per day, 20/64-in. choke; tubing pressure 450 lb., casing pressure 500 lb., perforated casing 7,595-7,625 ft., total depth 7,700 ft.

EAST TEXAS BORDER COMPLETIONS

Waskom—Harrison County

William S. King No. 1 T. J. Taylor, Henry Martin Survey, dry and abandoned at 3,743 ft.

Caddo—Marion County

Lee & Dunham No. 1 T. S. Burks and others, 150 ft. NE cor. 127-acre lease, M. G. Nall Survey, completed for 16 bbl. per day, pumping.

Joaquin—Shelby County

Neal & McDaniel No. 1 C. W. McDaniel, located in a 75½-acre tract of the William Snyder Survey, total depth 6,225 ft., completed for 30,000,000 cu. ft. of gas daily through ¾-in. choke; perforated casing 5,010-80 ft.

Estimated Daily Production

Estimated daily gross production all companies for week ending July 21, 1939:

NORTH LOUISIANA

	Barrels
Bellevue	525
Caddo light	4,445
Caddo heavy	2,460
Converse	560
Cotton Valley heavy	*None
Cotton Valley light	†9,330
Cross Lake	7,235
De Soto and Red River	1,125
Elm Grove	270
Haynesville	2,815
Holly	80
Homer	2,725
Lisbon	3,080
Pleasant Hill	120
Rodessa	27,890
Sarepta-Carterville	‡440
Sligo	1,205
Sugar Creek	260
Urania	2,785
Zwolle	2,865
Total	70,215

SOUTH ARKANSAS

Atlanta	300
Buckner	2,015
Champagnolle	2,050
El Dorado	1,690
Lewisville	185
Lisbon	250
Magnolia	12,295
Miller County	240
Nevada	600
Rodessa	4,010
Schuler	18,295
Smackover light	1,940
Smackover heavy	14,925
Stephens	560
Troy	1,150
Urbana	1,085
Village	935
Total	62,525

Texas side of Rodessa field 28,740 bbl. daily.
*Temporarily closed down.
†2,910 bbl. is distillate.
‡190 bbl. is distillate.

Rocky Mountain Area

(Continued from Page 200)

Carbon County

Sinclair-Wyoming Oil Co. No. 13 Wertz, NE NW NW Sec. 7-26n-89w. Drlg. 6,000 ft.; cmtd. 7-in. at 5,918 ft.
Producers Oil Co. No. 1 Lake Valley, CNL Sec. 14-20n-88w. Drlg. 2,735 ft.

Converse County

New Era Fuel Co. No. 1 Simonson, NW NE SE Sec. 16-32n-68w. Cmtd. 8¼-in. at 812 ft.; W.O.C.
Wyshawn Oil Co. No. 2 Lindley, C SW SW Sec. 35-32n-69w. Drlg. below 2,693 ft.
W. W. Austin et al No. 1 Pfister, SW NE NW Sec. 20-32n-68w. T.D. 713 ft.; cmtd. 5⅛-in. at 710 ft.; S.G. in sdy. sh. 710-13 ft.
New Era Fuel Co. No. 2 Gasper, CNL NW SW Sec. 25-32n-69w. Cg. 750 ft.
New Era Fuel Co. No. 1 Pestal, SE NE NE Sec. 32-32n-69w. T.D. 540 ft.; landed 8¼-in. at 500 ft.
U. & S. Oil Synd. No. 1 Beaver, SE NW Sec. 29-35n-68w. M.I.C.T. for test on Walker Creek.
Blue Ridge Oil Co. No. 1 Prokesh, SW NW SE Sec. 29-32n-69w. Drlg. 305 ft.; 10-in. at 300 ft.

Fremont County

Lincoln Oil & Gas Co. No. 5 Tribal, C SW NE Section 23-1s-1e, Plunket field, drilled to 1,103 ft., plugged back to 600 ft. for 1 bbl. per day.

Sinclair-Wyoming Oil Co. No. 11, CSL NE NE Sec. 15-32n-95w. Drlg. 1,330 ft.
Hall & Olinger No. 5 Govt., NW NE Sec. 33-38n-93w. S.D. 870 ft. in gr. sh.; 400 ft. wtr. from sd. at 850 ft.; 6¼-in. at 700 ft.
Pilot Oil Co. No. 8 Hoffman, C SW SW Sec. 22-3n-1w. Drlg. 800 ft.
Consolidated Oil Properties No. 3 Ewart, C SW SE Sec. 16-1n-1w. T.D. 1,245 ft.; U.R. 6⅝-in. at 1,000 ft.
Frank Pouppirt No. 2 Fidelity Tr., NW NW SW Sec. 27-3n-1w. T.D. 1,200 ft.; C.O. to res.

Hot Springs County

Phebus Oil Co. No. 2 Govt., NW SW SW Sec. 11-44n-98w. T.D. 1,100 ft.; swdg. out kink in 12½-in. jt.
John W. Selby No. 1 Kyne, SW NW Sec. 22-43n-92w. M.I.C.T.; Kirby Creek.

Lincoln County

H. C. Harris et al No. 1 Govt., SE NW NW Sec. 23-21n-117w. Drlg. below 1,916 ft.; 8⅝-in. set at 1,910 ft. for W.S.O.

Natrona County

Connelly Drlg. Co. No. 1 State, SW SW NW Sec. 36-36n-81w. Drlg. below 1,300 ft.
General Pet. Corp. No. 1 Govt., C NW SE Sec. 21-35n-77w. T.D. 8,511 ft.; P.B. to 7,974 ft.; set whpstk. and drld. out old hole at 6,840 ft.; drlg. 6,907 ft.
Summit Oil Co. No. 2 Govt., NW NE NE Sec. 21-33n-80w. Drlg. below 560 ft.

Niobrara County

Continental Oil Co. No. 3-B Dielman, SW SE NW Section 8-35-65, north offset to Adams Oil Co.-Felmont Corp. No. 1 Baker, an outside well on the south end, is pumping 100 bbl. per day from the Leo sand at 5,351-5,556 ft. after plugging back from 5,741 ft.
Continental Oil Co. No. 2-B Schuricht, SE SW SE Sec. 6-35n-65w. T.D. 4,000 ft.; W.O. equip. to D.D.
Continental Oil Co. No. 9-B Schuricht, NW SW SE Sec. 6-35-65. B.R.; (first report).
Continental Oil Co. No. 4-A Dielman, SW NE NE Sec. 7-35n-65w. B.R.; (first report).
Holly Dev. Co.-A. B. Cobb No. 4 Novick, SE SE SW Sec. 6-35n-65w. T.D. 4,834 ft.; trying to free D.P.
Ohio Oil Co. No. 3 Cash-1, SW NW SW Sec. 4-35n-65w. Drk.; W.O. equip.
Ohio Oil Co. No. 12 Elizabeth Lamb-Acct. 2, NE SE SE Sec. 5-35n-65w. Drlg. 4,256 ft.; T. first Sundance 4,052 ft.
Continental Oil Co. No. 16 Tom Bell Cattle, NW SW SW Sec. 34-36n-65w. T.D. 3,987 ft.; T. basal Sundance 3,951 ft.; 6⅝-in. at 3,948 ft.; acd. 1,000 gal.; swbd. rate 96 B.P.D.
Argo Oil Corp. No. 1 U. S.-40, NW NW SW Sec. 8-35n-65w. Drlg. 4,283 ft.; T. basal Sundance 4,193 ft.; r.b. 4,234 ft.
F. F. Hintze et al No. 1 Wright-Govt., C NW SE Sec. 30-36n-63w. T.D. 4,964 ft.; cmtd. 7-in. at 4,617 ft. and S.D.
Fall River Roy & Prod. Co. No. 1 Govt., C SL SE SE Sec. 35-40n-61w. Drlg. 1,865 ft.; 10-in. mudded at 1,850 ft.
Continental Oil Co. No. 10 Otto Rohiff, SW SW SE Sec. 31-36n-65w. Drlg. sh. 2,559 ft.

Park County

Dry Creek Oil Co. No. 1 State, C NE NW Section 16-50n-100w, a wildcat south of the Oregon basin field south dome, was plugged and abandoned at 1,280 ft. It had water in the first Frontier at 1,270 ft.

Resolute Oil Co. No. 1 Northern Pacific, C NE NW Section 21-57n-101w, Badger basin, completed in the upper Frontier for only 4 bbl. in 1937 after being shot, was deepened to 8,679 ft. and recompleted for 250 bbl. per day.

Stanolind O. & G. Co. No. 36 Govt., SE SE NW Sec. 1-47n-100w. T.D. 1,328 ft.; O.W.D.D.; moving in portable rotary.

Platte County

Glentop Explrn. Co. No. 1, NE SE NE Sec. 18-30n-67w. Drlg. 563 ft. in White River form.

Sublette County

Texas Co. No. 1 Government Unit, SE SE SW Section 1-28n-114w, Dry Piney district, joint with Frontier Petroleum Corp., is being abandoned at 8,194 ft., total depth, after plugging back and testing upper horizons.

J. C. Anderson Drlg. Co. No. 1, W½ NE Sec. 30-30n-111w. Bldg. rig.; C.T. test to 2,000 ft.
California Co. No. 1 Unit 1, C SW NE Sec. 14-31n-109w. T.D. 6,683 ft.; milling on csg.; 9⅝-in. parted 150 ft. from top.
Wyo. Pet. Corp. No. 1 Budd, C NE NE Sec. 10-29n-113w. Drlg. 2,390 ft.
Wyo. Pet. Corp. No. 2 Govt., SE SE SE Sec. 3-29n-113w. M.I. rotary; (first report).
Yellowstone Oil Co. No. 1 Budd, C SE SE Sec. 6-30n-112w. T.D. 450 ft.; 12½-in. at 428 ft.

Sweetwater County

Mountain Fuel Supply Co. No. 1 Clark, NW SE SW Sec. 12-19n-194w. Drlg. 2,653 ft.
Mountain Fuel Supply Co. No. 1 Stone, C SW SW Sec. 18-19n-103w. S.D.O. 4,546 ft.; perf. at 4,000-3,660 ft.; wtr.; prob. abd.
Sinclair-Wyoming Oil Co. No. 84-A, SW NW NW Sec. 11-26n-90w. Drlg. 1,660 ft.; 7-in. at 1,567 ft.
Sinclair-Wyoming Oil Co. No. 85-A, SE SW SE Sec. 16-26n-90w. Drlg. 240 ft.

Uinta County

Spring Valley Pet. Co. No. 13, CSL SE SE Sec. 22-15n-117w. R.U. to D.D. from 1,726 ft.; O.W.D.D.

Weston County

Federal Oil Co. No. 9 Government, CNL SE SE Section 15-46n-64w, Osage field, is pumping 20 bbl. per day naturally from sand at 2,130-42 ft.

Butcher Brothers No. 1, NW SW NE Section 16-46n-63w, pumped 3 bbl. per day naturally from sand at 199-208 ft.

Whedon et al No. 1, C SW NE Sec. 21-46n-64w. Cmtd. cavings below 4½-in. at 3,888 ft.; W.O.C. to dpn. to 3,957 ft.
Butcher Bros. No. 2, CNL SW NE Sec. 16-43n-63w. Spdg.; (first report).
Bruce C. Teeters No. 1 State, SW SW SE Sec. 36-42n-61w. M.I.C.T.
Dornacher & Neiman No. 1 Neiman, NW NW NW Sec. 6-47n-64w. Drlg. 300 ft.
Lem Johnston No. 1, NW SW Sec. 24-44n-63w. Drlg. below 3,445 ft.
John Brorphy No. 1 George, SW SE NW Sec. 12-48n-64w. Drlg. 2,452 ft.; cmtd. 5⅛-in. at 2,400 ft. for W.S.O.
F. P. Dilger et al No. 4 Ost, CNL NE NE Sec. 25-46n-64w. Cg. in Sundance below 2,300 ft.
Hunter & Satterlee No. 1 Draper, NW NW NW Sec. 10-46n-63w. S.D. 160 ft. (C.D.) for repairs.
Kroker et al No. 2, CNL NE NW Sec. 31-47n-63w. T.D. 375 ft.; W.O. new mch. to D.D.
Updike Co. No. 7, NW NW SW Sec. 25-46n-64w. Drlg. 1,600 ft.

MONTANA

Blaine County

Walter Drought et al No. 1 Stam, CSL SW SE Sec. 10-31n-18e. Drlg. below 1,068 ft.

Carbon County

R. R. Tarrant No. 2 McKay, C SE NW Sec. 4-6s-18e. T.D. 2,990 ft.; W.O. 10-in.

(Continued on Page 223)

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KENNEDY
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Southwest Texas District

By F. L. SINGLETON

Jim Wells County Promising; Outposts For Nueces County

CORPUS CHRISTI, Tex., July 24.—Magnolia Petroleum Co. No. 1 Maun, 6,000 ft. east of the discovery well of La Gloria field, Jim Wells County, which last week showed promise of the first oil production on structure, was in the final stages of completion as tubing was being run following a second drill-stem test in new perforations at 6,806-11 ft. On a 30-minute drill-stem test it tested 1,200 ft. of oil, 155 ft. of salt water, and working pressure built up to 55 lb. The oil tested 38.5. This is the second well drilled on the structure and the sand is approximately 250 ft. lower than the discovery well completed as a distillate producer at 6,560-70 ft.

The Reynolds field, another recent discovery in Jim Wells County, was extended 1,300 ft. northeast as Texas Gulf Producing Co. completed No. 2-A Miller for an initial production of 168 bbl., flowing through a 9/64-in. choke. The rig is being moved for the company's No. 1-B Miller, an offset, while Walter Goldson has staked location for an outpost, No. 1 Rand Morgan, in the Reynolds farm lots subdivision of the San Antonio de Agua Dulce grant. Tom Graham was testing No. 1 Mosser, Fred Frank Survey, bottomed in oil sand at 5,133-47 ft., while Rand Morgan No. 1 fee was testing at a total depth of 5,173 ft.

The northeast side of the Minnie Bock field, Nueces County, was defined as Texas Conservative Oil Co. abandoned No. 1 J. E. Humble, ½ mile from production. It found the 3,800-ft. sand too low to produce, and the hole was carried to 6,010 ft. Casing was cemented after an electrical survey showed possibilities at 5,600 and 5,900 ft., but three drill-stem tests showed salt water with a slight trace of oil.

Agua Dulce

Approximately ½ mile northeast of the London field, Joe W. Cosner staked location for No. 1 S. F. Lehman, Section 11, Laureles Farm subdivision. Northeast of the Agua Dulce field, Union Producing Co. staked No. 1 W. H. Wallace in Section 88, Pauls subdivision. In the Minnie Bock area, Texas Co. is moving in for No. 1 J. B. Rutland, an outpost well in Section 130, George H. Pauls subdivision of the Driscoll ranch.

In the Robstown area, Nueces County, Shield Oil Co. No. 1 Phil Magee, which the previous week showed for a pool opener, is drilling below 6,800 ft. and now further shows have been reported. The well will be drilled to a contract depth of 7,000 ft., and casing is expected to be cemented to test a sand section at 5,556-82 ft., which tested 360 ft. of oily mud and 300 lb. of working pressure. The well is located in the Joaquin de Herrera grant on a farmout lease from the Shell Oil Co., Inc.

In Refugio County, 3 miles southeast of La Rosa field, L. & E. Oil Co. is moving in for a 7,000-ft. test on the O. F. and Louise Heinen lease in the Aldrete 6¼ League grant, Section 10, on a farmout from Continental Oil Co. Phillips Petroleum Co. No. 1 J. C. Toland, midway between La Rosa and Bonnieview fields, below 6,500 ft., is expected to be drilled to 7,000 ft. Oil and gas showings were logged between 5,748-6,150 ft.

In Victoria County John Mayo and others No. 1 Vogt, a wildcat in the Pope Dimmit Survey, made a 12-minute drill-stem test of the Greta sand section at 4,748-49 ft., and is coring after 660 ft. of salt water with an oily taste. Near the Bloomington townsite, Francisca Perez Survey, Renwar Oil Corp. and others No. 1 Ben F. Johnston is coring in sandy shale below 5,300 ft.

In the Rio Grande Valley district, Magnolia Petroleum Co. is expected to abandon No. 2 Denman, a wildcat in Brooks County. In northeastern Starr County, Magnolia Petroleum Co. No. 2 Guerra is in shale below 5,520 ft., probably going to 7,500 ft. Shary Maddox No. 1 A. C. Neal, Santa Anita grant, Hidalgo County, is drilling in sandy shale below 7,186 ft. with no shows.

In Webb County, 1½ miles southwest of the Volpe field, V. G. Schimmel No. 1 Benavides has been completed for an initial of 96 bbl. pumping. It is an extension to the West Cole field. Boysen & Jones No. 2 Watkins, San Casimiro grant, is bottomed at 1,406 ft. Another wildcat attracting attention is F. J. Hynes No. 2 Bruni, Thomas Burtrang Survey. Sand with oil odor was cored at 2,756-61 ft., and the well is drilling in sand with oil odor at 2,761 ft. It tested 868 ft. of salt water with a slight show of oil.

In Duval County, southwest of the discovery well of the Chiltipin Creek field, William Nichols is rigging up for No. 1 Graham in Survey 572.

One mile north of Fashing in the A. S. Donavan Survey, Pulliam & Dixon No. 1 J. T. Henke is bottomed at 668 ft., with a showing of oil at 648-56 ft.

In Milam County, 1 mile northeast of San Gabriel, H. R. Edwards No. 3 Camp, is bottomed in the Edwards lime at 1,920 ft. and will test a showing of oil logged by an electrical survey in the Navarro formation.

Nine miles south of Seguin, Tide Water Associated Oil Co. No. 1 Hiram Jackson, J. O. Blair Survey, looms as a dry hole coring in hard Edwards lime with no shows at 2,778 ft. It will be cored until it encounters sulfur water. East of Seguin, Edward Steves, Jr., trustee, is reported to have staked location for No. 1 Theodore Tiemann in the John Sowell Survey 16, to be drilled to the Edwards lime.

In Zavalla County, H. F. Wilcox Oil & Gas Co. is rigging up No. 5 Gilliam in the Batesville area in Section 12, Block 2, A.G.W.T.R.R. Survey.

SOUTHWEST TEXAS COMPLETIONS IN PROVEN FIELDS

Aransas-San Patricio Counties

McCampbell field: J. K. Culton No. 2 Barry Estate, perforated casing 7,348-54 ft., 50 bbl. distillate, ⅛-in. choke.

Duval County

Benavides field: Benedum & Trees No. 20 Puig, perforated casing 4,755-63 ft., 114 bbl., 5/32-in. choke. Hiawatha Oil & Gas Co. No. 15 Southland Life Insurance Co., perforated casing 4,734-47 ft., 77 bbl., 5/32-in. choke. Longhorn field: Longhorn Drilling Co. No. 6 Miller, sand 4,900-10 ft., 118 bbl., 5/32-in. choke. Longhorn Drilling Co. No. 6-A Miller, sand 4,030-37 ft., 177 bbl., 5/32-in. choke. M. M. Miller & Sons No. 10 fee, 4,065 ft., 151 bbl., 5/32-in. choke. Piedra De Lumbre field: Magnolia Petroleum Co. No. 30 Duval County Ranch Co., 2,154 ft., 250 bbl., ⅝-in. choke. S. R. C. field: Transwestern Oil Co. No. 25 Duval County Ranch Co., 1,036 ft., 75 bbl., pumping.

Guadalupe County

Darst Creek field: United North & South Development Co. No. 14 Dix, 2,528 ft., 32 bbl. water, pumping.

Hidalgo County

Samfordyce field: L. F. Drake No. 2 Guerra, perforated casing 2,876-80 ft., 75 bbl., ⅛-in. choke.

Live Oak County

Oakville field: Simmons Oil Co. No. 5-B Reagan, sand 2,830-39 ft., 53 bbl., pumping. White Creek field: Brauer, Holland & Smith No. 4 Gayle, sand 1,409-22½ ft., 95 bbl., ¼-in. choke. Coquat and others No. 1 Bonham, 1,740 ft., 35 bbl., pumping.

Jim Hogg County

Colorado field: Humble Oil & Refining Co. No. 4 Atwood, 3,039 ft., abandoned. Kelsey field: Humble Oil & Refining Co. No. 15 McGill, 6,150 ft., abandoned.

Milam County

Rockdale field: W. A. Jones No. 8 Coffield, sand 674-714 ft., 4 bbl., pumping. W. A. Jones No. 9 Coffield, sand 638-58 ft., 5 bbl., pumping. H. E. Vance No. 1 fee, 1,284 ft., abandoned.

Nueces County

Richard King field: Southern Minerals Corp. No. 4-A King, perforated casing 5,371-81 ft., 250 bbl., ¼-in. choke.

Refugio County

Tomoconnor field: Quintana Petroleum Corp. No. 41-C O'Connor, perforated casing 5,884-92 ft., 617 bbl., ¼-in. choke.

San Patricio County

East White Point field: Plymouth Oil Co. No. 6 Solar-Ficke, perforated casing 5,663-75 ft., 123 bbl., 7/64-in. choke. R. A. Welch No. 5 fee, perforated casing 5,658-74 ft., 142 bbl., ⅛-in. choke.

Zapata County

Comitas field: Nordan & Morris No. 19-C Haynes, 1,254 ft., abandoned. Escobas field: Transwestern Oil Co. No. 20-B Trevino, 1,389 ft., 16 bbl., pumping. Mirando Valley field: Carter & Rubsamen No. 1-A Lopez, sand 1,818-20 ft., 100 bbl., pumping. Interstate Minerals, Inc., No. 15 Lopez, 1,817 ft., 35 bbl., pumping.

Eastern Fields

(Continued from Page 198)

Oriskany Gas Field

Two wells were completed in the Kanawha County Oriskany gas field and in the extension to the north in Jackson County. In Poca district, Kanawha County, Meigs Development Co. completed the E. P. Higginbotham test at 4,971 ft. with 1,311,000 cu. ft. at 4,963 ft. which decreased at bottom to 781,000 cu. ft.

In Washington district, Jackson County, United Carbon Co. completed No. 4 Elizabeth W. Perkins at 5,014 ft.; lime at 4,851 ft.; Oriskany, 4,976 ft.; first gas 4,977 ft.; a gage of 3,801,000 cu. ft. at 4,984 ft. which blew down to 1,929,000 cu. ft.; increase in gas at 4,993 ft. and after shot a gage of 6,625,000 cu. ft. a day.

In Poca district, Kanawha County, United Carbon Co. topped the Corniferous lime at 5,114 ft. in the D. D. Slater and others test. Columbian Carbon Co. topped the Big lime at 1,523 ft. on the A. H. Campbell farm. Mullins Gas Co. is drilling at 4,890 ft. on the Johnson-Carney farm with the Corniferous topped at 4,878 ft.

Outside Deep Tests

In Ravenswood district, Jackson County, Joe Rubin and others are drilling in the Corniferous lime on the E. W. Brown farm. In Ripley district, Columbian Carbon Co. is still fishing baller on the John F. Parsons farm. Everett Starcher and others are down 5,197 ft. on the D. M. Boggess farm, and rigging up the Roy O. Pfost test. In Grant district, Pleasants County, Columbian Carbon Co. started a new hole at 4,966 ft. on the Hammat farm.

North and East Texas

By
D. H. STORMONT

Find New Pool in Montague; Northern Archer Area Active

WICHITA FALLS, Tex., July 24.—New oil pool for Montague County, increased development in the Hull-Silk pool of northern Archer County, and final gaging of the first deep Ordovician wells in Cooke County's Walnut Bend field were highlights in North Texas.

The new pool and new producing horizon in Montague County was discovered by J. Benton and J. W. Holmes, of Fort Worth. It is only ½ mile north of their 2,900-ft. discovery well of several months ago. The new producer was drilled as an outpost to the 2,900-ft. pool, missed the pay horizon and was deepened. An oolitic sand was drilled from 3,853-69 ft. and casing was cemented at 3,824 ft. for a test. Plug was drilled and the well was swabbed in and started flowing at the rate of about 10 bbl. hourly. The discovery is No. 2 Bowers, in the northeast corner of the southeast quarter of Block 55, M.E.P.&P. Survey, Abstract 528. It flowed 7 bbl. of oil hourly for 24 hours during the week and on last reports was flowing at the rate of about 10 bbl. hourly. A new test has already been staked, Continental Oil Co. and United Producers, Inc. No. 1 D. H. Braham, northwest corner of the G. R. Jacques Survey, Abstract 393, an east offset to the 2,900-ft. producing No. 1 Langford, southwest of the discovery.

Several extension tests which serve to further link the Hull-Silk pool and the Sikes extension area, Archer County, attracted attention. Bert Ligon No. 1 Moss, extreme southwest corner of Section 1, H.T.&B. Survey, between the pool proper and his recent extension on the Johnson lease, cored saturated lime from 4,005 ft. to 4,025 ft. and was drilling below 4,040 ft. toward the 4,300-ft. horizon.

Immediately southwest of Ligon No. 1 Moss, Helmerich & Payne, Inc. have completed No. 2 J. N. Shepherd, northern part of the southeast quarter of the Abner Nails Survey, Abstract 325, for 100 bbl. of oil in 3 hours. Pay was drilled from 4,290 ft. to 4,324 ft., total depth. Three miles northeast of the Hull-Silk pool and in the Sikes extension area, Louis Sikes No. 3 O. T. Anderson, in the northeast corner of Section 38 A.T.N.C.L. Survey, was completed for 90 bbl. of oil and 15 bbl. of water daily. Oil sand was logged from 4,373-86 ft.

Possibility of a ½-mile southwest extension for the Hull-Silk pool was seen at Phillips Petroleum Co. and King Oil Co. No. 1 Wilson, Lot 6, Block 23, A.T.N.C.L. Survey. It flowed 450 bbl. of oil in 11 hours through 2-in. line from casing and was still flowing when shut in. Bottomed at 4,735 ft. after plugging back from 4,825 ft. in the Caddo lime, it was treated with 1,000 gal. of acid through perforations in casing from 4,010-29 ft.

Cooke County

The discovery well from the Simpson, Upper Ordovician, has been gaged in the Walnut Bend field of Cooke County and another test was nearing completion from this third and deepest producing horizon. The discovery well was Sinclair Prairie Oil Co. No. 10 Best, on the southeast side, and a potential gage of 166 bbl. of oil in 6 hours was registered. Simpson was topped at 5,230 ft. and total depth is 5,565 ft. A second producer from the new horizon appeared in Cox & Hamon No. 3 Neu, an east offset to the discovery, which drilled the Simpson formation from 5,257-88 ft. with good saturation.

Clay County

Furthering Clay County's Strawn exploratory campaign, a block of 3,400 acres has been assembled in the southwestern part of the county by Shell Oil Co., Inc., after considerable geophysical work. The acreage is mainly out of the T.E.L. Survey, across the line from Antelope in northern Jack County. A wildcat in the western part of the southern half of Clay County, Frabor-Hodges Corp. and Mid-Union Drilling Co. No. 1 Kinder, Lot 11, Block 2, Clark & Plumb Subdivision, has been plugged back to 4,370 ft. from 5,527 ft. Indicating a ½-mile northwest spread to the Burns pool, L. T. (Bobby) Burns No. 1 Pickett, in the W. W. Yearly Survey, Abstract 745, had cemented 7-inch casing at 4,430 ft. on top of oil sand encountered from 4,430 ft. to 4,444 ft., total depth.

NORTH TEXAS COMPLETIONS

Archer County

Guy J. Brown and others No. 2 J. J. Perkins, 988-1,002 ft., 6 bbl. Bert L. Ligon No. 1 S. D. Johnson, 4,300-48 ft., 1,328 bbl. Bert L. Ligon and others No. 4 L. F. Wilson, 4,296-4,336 ft., 550 bbl.

Clay County

John E. Farrell No. 1 Claude P. Malone, 5,552 ft., dry.

Cooke County

Sinclair Prairie Oil Co. No. 11 J. M. Best, 4,932-5,240 ft., 602 bbl. Sinclair Prairie Oil Co. No. 13 J. M. Best, 4,959-98 ft., 753 bbl. A. D. Robinson No. 2 Fred Herr, 822-70 ft., 6 bbl. J. M. Russell No. 1 Texas Christian University & W. H. Stark, 1,125-43 ft., 109 bbl. B. F. Thompson No. 6 Joseph Wiesman, 911-33 ft., 35 bbl.

Jack County

Big 6 Oil Co. No. 1 Fields, 4,440 ft., dry. Fulton & Marvin No. 1 J. D. Gillespie, 522 ft., dry.

Montague County

Stanolind Oil & Gas Co. No. 1 W. L. Zachary, 4,634-61 ft., 984 bbl.

Wichita County

S. H. Fagadau No. 1 Wichita County, 3,895-3,950 ft., 640 bbl. Fain McGaha No. 12 E. P. Griffin B, 3,705-95 ft., 840 bbl. Grace & Wood No. 3 M. A. Love, 3,900-4,011 ft., 1,040 bbl. W. B. Hamilton No. 2 N. H. Martin D, 3,783-3,802 ft., 984 bbl. H. Hines & Humble Oil & Refining Co. No. 6 J. L. & T. J. Waggoner, 3,815-71 ft., 480 bbl. King Oil Co. and others No. 8 W. P. Ferguson, 3,698-3,781 ft., 840 bbl.

Young County

Rhea Anderson No. 1 Koester, 1,151 ft., dry. Cable Oil Co. No. 10 Jocy Williams, 574-87 ft., 10 bbl. W. F. Collins No. 4 E. R. Smith, 485-573 ft., 8 bbl. R. T. Parkin No. 1 A. C. Casey, 601 ft., dry.

EASTERN TEXAS

DALLAS, Tex., July 24.—Three new locations in the eastern Texas wildcat campaign, activity in Henderson County's recently discovered Mabank pool, and Houston County's Navarro Crossing pool, led developments in eastern Texas.

Leon County added a wildcat and an outpost to the Buffalo area opened last year. Humble Oil & Refining Co. staked its No. 2 Ed F. Swift as a new Woodbine wildcat about 1 mile south of the discovery extension to the Navarro Crossing pool. It is on a 106-acre tract in the H. W. Sublett Survey and southeast of the company's No. 1 Haley, next test to be drilled in the Leon County extension. Also in Leon County and a north outpost to J. K. Hughes No. 1 Sam Bane, discovery of last year, he has staked No. 1 R. H. Moore, J. N. Boyd Survey.

A third wildcat test was S. Reele and others No. 1 Carlos Berry, scheduled 2,500-ft. test 1 mile northwest of Dawson in Navarro County, in the south corner of the W. W. Moss Survey.

Four failures were listed, one each in Kaufman, Leon, Rusk and Van Zandt counties. In southern Kaufman County about 2 miles south of Kemp McGee No. 1 San Antonio Land & Cattle Co., Higdon Survey, was abandoned at 3,336 ft. Leon County's failure was in Navarro Crossing pool extension area where Humble Oil & Refining Co. quit No. 1 W. Johnson, W. Little Survey, at a depth of 5,879 ft. after the Woodbine proved unproductive. In Rusk County, Ham & Bogges No. 1 W. G. and W. M. Ross, J. McCune Survey, 3 miles northwest of Mount Enterprise, was abandoned at 3,836 ft. A closely watched wildcat in Van Zandt County was abandoned, F. A. Richardson No. 1-A B. C. Dodd, T. W. Hutchinson Survey, 2 miles south of Grand Saline. Total depth was 4,963 ft.

Mabank Pool

The Mabank pool of Henderson County is scheduled for added development as two wells prepare for final gages: Richards & Holloway, Inc. No. 2 Humble-Bauguss, and Richards & Holloway No. 1 Bauguss. No. 1 Bauguss has been standing for almost 2 months bottomed at 3,159 ft. with storage full. It is reported that Richards & Holloway, Inc. and Tyler & Smith, openers of the pool with their No. 1 Rowe & Baker, will re-work the discovery well and install a new pumping unit. It was assigned a 70-bbl. allowable.

Navarro Crossing Pool

Another producer in the Navarro Crossing pool of Houston County was assured when Humble Oil & Refining Co. No. 3 Dailey & Taylor, on a 500-acre tract in the J. G. Thompson Survey, cored oil sand from 5,867-72 ft. and shut down to cement casing. The company has staked location for No. 4 Dailey & Taylor, south of No. 3.

EAST TEXAS FIELD COMPLETIONS
(1-hour gages)

Gregg County—Longview Area

H. L. Allen No. 4 M. Bonner, 3,571-84 ft., 16 bbl.

Gregg County—Kilgore Area

Jack Apple No. 3 J. M. Johnson, 3,540-53 ft., 60 bbl.

Rusk County—Joiner Area

P. G. Lake No. 20 V. E. Reed, 3,573-95 ft., 17 bbl. Stanolind Oil & Gas Co. No. 43-A H. C. Maxwell, 3,762-3,824 ft., 21 bbl.

Upshur County—Longview Area

Humble Oil & Refining Co. No. 25 G. W. Johnson, 3,692-93 ft., 48 bbl.

EAST CENTRAL TEXAS COMPLETIONS

Henderson County

In the Flag Lake field, Watt & Upchurch No. 1 Flag Lake School, dry and abandoned at total depth of 3,108 ft.

Kaufman County

A wildcat, McGee No. 1 San Antonio Land Co., dry and abandoned at total depth of 3,336 ft.

Leon County

In the Navarro Crossing extension area, Humble Oil & Refining Co. No. 1 W. Johnson, dry and abandoned at total depth of 5,879 ft.

Rusk County

A wildcat, Ham & Bogges No. 1 W. G. & W. M. Ross, dry and abandoned at total depth of 3,836 ft.

Van Zandt County

A wildcat, F. A. Richardson No. 1-A B. C. Dodd, dry and abandoned at total depth of 4,963 ft.

Kent County Is Monopolizing Interest in Michigan Fields

By O. C. PRESSPRICH

SAGINAW, Mich., July 24.—Spurred by one of the most important developments in several months in southwestern Michigan, interest in the Kent County field leaped to new heights, practically monopolizing the Michigan oil picture.

Particular note was attached to the big producer completed by Wolverine Natural Gas Corp. in the NW NW NW Section 4 of Walker Township (6n-12w), which extended the field 1 mile northwest. Initial from the well, No. 7 Rex Johnson, was 960 bbl. per day.

A rush began for drilling locations. Permits included 10 for Walker Township, five for Wyoming Township and one for Paris Township.

Twelve of the 20 producing completions reported were in the Walker-Wyoming pool, their combined potential just under 10,000 bbl., as one well rated 3,500 bbl. a day, another 2,400, a third 1,200 and three others 500 bbl. and better. In Allegan County's Salem Township three producers had total production of 1,400 bbl. and one new well in Columbia Township of Van Buren was rated at 1,000 bbl. Four small wells contributed to the 12,725-bbl. increase in potential for the state. The record also included 12 dry holes, an abandoned location and a sizeable natural gas well in Freeman Township of Clare County.

J. V. Wicklund Development Co. failed to extend the Kent field into Algoma Township (9n-11w), abandoning a test in Section 10 at 2,746 ft.

Smith Petroleum Co. brought in the week's biggest well in Section 4-6n-12w, when No. 4 William H. Gilbert Estate was rated with initial of 3,500 bbl. Three other producers in that section were Wolverine Natural Gas Corp., 960 bbl., from No. 7 Rex Johnson, and Lenoran Petroleum Co. No. 2 Nelson Maynard, 750 bbl. Smith got a small producer, 55 bbl., after acidizing.

In Walker Township (7n-12w), Voorhees Drilling Co. No. 1 William Cummings in Section 30, made 200 bbl. an hour. The company had a dry hole in Section 31. Section 32 had three small producers.

In Wyoming Township (6n-12w), C. A. Welch No. 1 Pere Marquette, in Section 3, after acidizing made 1,200 bbl. In Section 23, Fortney Oil Co. had a dry hole.

In Dundee Township (6s-6e), Monroe County, A. & V. Oil & Gas Co. had a small gas producer deepened to 2,126 ft., gave it a heavy shot and oil is now flowing at the rate of 100 bbl. a day. C. C. Goff interests, in Section 24, Bloomingdale, Van Buren County, lost No. 4 Miller, originally a fair producer, which went dry.

Allegan County activity centered in Salem, Socony-Vacuum Oil Co. getting a 600-bbl. producer in Section 15, while J. V. Wicklund Development Co. and Salem Oil & Gas Co. each got 400-bbl. wells after treating. Hopkins, Lee and Overisel Township tests in Allegan were abandoned as dry, as was another in Wayland.

The gas well brought in by Taggart Bros., Inc., in Freeman Township, Clare County, Section 14, had a flow of 11,800,000 cu. ft. of gas.

A Kalamazoo County test was abandoned, Twin Drilling Co. project in Section 32 of Richland Township (1s-10w), In Van Buren County, Bangor and Waverly Township tests were abandoned. J. H. Fitchett, trustee, got a 1,000-bbl. well in Section 13 of Columbia Township and Michigan Cities Natural Gas Co. completed a small producer in Columbia's Section 11. Clark & Johnson got a 150-bbl. well in Bloomingdale, Section 5.

While the Walker Township developments were coming thick and fast, Swanson Consolidated Oil Co. appeal to the state Conservation Department for modification of the state's new proration order, which limits the company to 190 bbl. a day on its lease. Plans for a hearing were being made. Swanson Consolidated has three producers on a 9½-acre tract. The proration order limits output to 200 bbl. a day per 10 acres. The plaintiffs want proration on a well basis, which would permit them to take 600 bbl. a day on that lease.

Of the 36 new drilling permits issued, 16 are for Kent County, seven for the Salem field in Allegan, with 11 townships in six other counties getting the remainder. Two of the Kent tests are planned inside the city of Grand Rapids, on city-owned land.

Following is a summary of the past week's completions:

Allegan County

Hopkins Township (3n-12w)—Bell & Marks, Inc., abandoned No. 2 Brower, NE SW NW, Section 23 at 1,658 ft.

Lee Township (1n-15w)—George Kernodle No. 1 Albert Pike, SW SW SE Section 34 was dry at 1,315 ft.

Overisel Township (4n-14w)—Rowmar Corp. abandoned No. 1 Henry Poelakker, SW SW NE Section 9, at 1,497 ft.

Salem Township (4n-13w)—Muskegon Oil Corp. abandoned location, SW NE SW Section 2. Victor R. Wilson abandoned No. 1 Howard Loew, NE NW SE Section 3, at 1,657 ft. Acidizing at 1,581 ft., Socony-Vacuum Oil Co. got 600 bbl. a day from No. 1 Felix Markula, SE NE SE Section 15. Similar production was recorded by Salem Gas & Oil Co. No. 2 Dean-Byers, NW SW NE Section 22, at 1,586 ft., 5 feet deeper. J. V. Wicklund Development Co. completed No. 2 Alois Smith, SE NE NE Section 22, at 1,574 ft. Acidized it increased to a potential of 400 bbl.

Wayland Township (3n-11w)—Robert Bond abandoned at 1,777 ft. No. 1 Calkins, NW SE SE Section 5.

Arenac County

Clayton Township (20n-4e)—Weber Oil Co. acidized to get production of 55 bbl. at 2,578 ft. from No. 3 Gladys Dodge, SW SE SW Section 4.

Clare County

Freeman Township (18n-6w)—Taggart Bros., Inc., brought in No. 9 Entriken, C SE Section 14, gaging 11,800,000 cu. ft. of gas at 1,512 ft.

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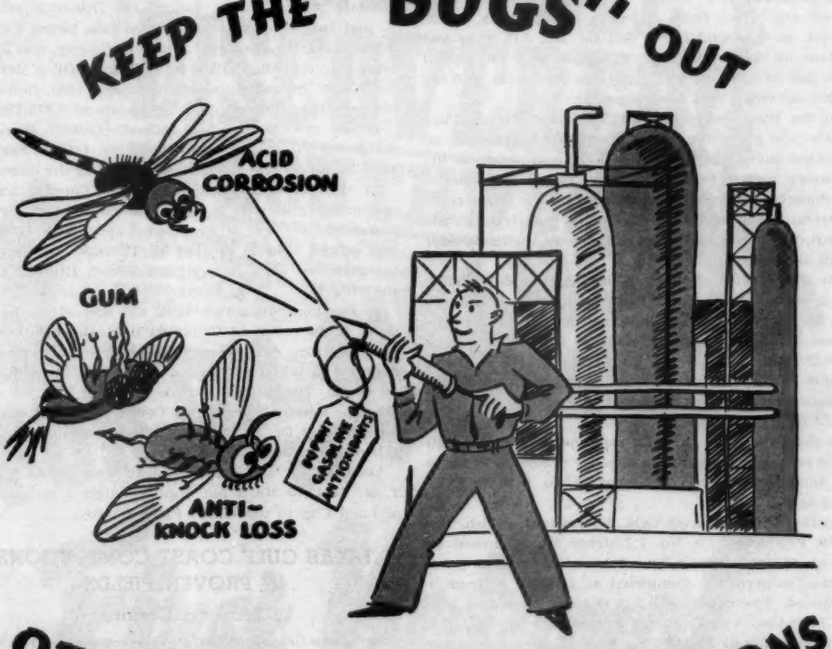

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GASOLINE ANTIOXIDANTS

Texas and Louisiana Gulf

By
NEIL WILLIAMS

New Sand in East Hackberry; First Salt in Old Welsh Pool

HOUSTON, Tex., July 24.—Opening production from a new sand on the southwest flank of the East Hackberry field, Cameron Parish, and discovery of the first salt material at the old Welsh field, Jefferson Davis Parish, were highlights along the Gulf Coast district.

Union Sulphur Co. No. 1 Josephine O'Quinn, Section 37-12s-10w, East Hackberry field, Cameron Parish, perforated casing at 7,575-7,605 ft., and was completed for an initial production of 270 bbl. of 32.6-gravity—one of the deepest holes around the flank of the structure, 9,665 ft.

A continuation of deeper drilling around the flanks of the old Welsh field, Jefferson Davis Parish, is expected, as Stanolind Oil & Gas Co. No. 3-B Irvin and Bishop, on the south flank in Section 28-9s-4w, topped rock salt at 6,315 ft. and cored the formation to 6,458 ft. No showings have been reported.

In the West Gueydan field, Vermilion Parish, Pure Oil Co. was preparing to test a new sand logged by an electrical survey in No. 2 J. B. Ferguson, south of the discovery well in Section 5-12s-2w. The survey showed 12 ohms resistivity on normal survey, 7½ ohms resistivity on the third curve and 3 ohms resistivity on the fourth curve. Sidewall cores showed sand with an odor of oil at 6,685-95 ft.

On the Perkins prospect, Calcasieu Parish, Humble Oil & Refining Co. No. 1 Edgewood Land & Logging Co., Section 32-7s-10w, is bottomed at 8,005 ft., and is to test a gas sand logged at 7,038-65 ft.

In Orleans Parish, W. T. Burton No. 1 L. & N. R. R., Section 18-11s-15e, is preparing to drill after sand with a slight show of oil was logged at intervals at 10,125-10,212 ft.

In the Lake Long field, La Fourche Parish, Fohs Oil Co. is preparing to complete another producer, as shale and sand showing oil was cored in No. 9 State Lake Long at 9,361-97 ft.

North of the Bancroft field, Beauregard Parish, Republic Production Co. No. 7 Lutcher Moore flowed 19 bbl. of 43.9-gravity the first 2 hours through a 4/64-in. choke. The well was completed at 7,639-41 ft. from a new sand. The company's No. 8 Lutcher Moore, Section 14-6s-13w, was completed in the main pay at 7,315-28 ft. and flowed 18 bbl. the first 2 hours through a 4/64-in. choke.

In the Eola field, Avoyelles Parish, Amerada Petroleum Corp. No. 1 Avoyelles Bank & Trust Co. extended the field northeast when it flowed 238 bbl. in 14 hours through a 4/64-in. choke from perforated casing at 8,530-70 ft. The company's No. 1 Irion, west of production, and highest well in the field, was completed through perforated casing at 8,325-8,400 ft., for an initial production of 746 bbl., flowing through a 4/64-in. choke. W. C. Feazel No. 1 Keller, Section 7-2s-1e, is bottomed at 8,560 ft. Pomo Production Co. No. 2 Sentell, in Section 8, cored the Wilcox to a total depth of 8,573 ft.

Another deep producer was added to the Horseshoe Bayou field as Texas Co. completed No. 2 St. Mary Parish Land Co., Section 37-17s-9e. The sand section was logged at 10,857-78 ft., and the well flowed 360 bbl. through a 10/64-in. choke.

On the Vermilion Bay dome, Iberia Parish, Texas Co. was drilling out cement preparatory to testing a deep sand in No. 3-B Vermilion Bay, bottomed at 10,241 ft.

Brazoria County

In the Iowa Colony area, Brazoria County, Rowan Drilling Co. No. 1 Vilven, topped the Marginulina at 5,831 ft., and is coring for the Frio sand below 5,894 ft. In the Chocolate Bayou area, Glenn McCarthy No. 1 Houston Farms Development Co., Perry and Austin Survey, is drilling in shale at 9,895 ft. Hamman Exploration Co. No. 1 Darrington State Prison Farm, on the Juliff area, has been abandoned at 9,102 ft. Several production tests made in the Vicksburg formation at approximately 8,800 and 8,300 ft., showed favorable indications, and further activity is expected.

In Matagorda County and east of Palacios, Sun Oil Co. No. 1 Cavallin is reported to be flowing again after reperforating casing at 7,850-60 ft.

In the Cedar Point field, offshore from Chambers County in Galveston Bay, Standard Oil Co. of Texas and others No. 13 State, approximately ½ mile east of production, is drilling in sandy lime below 7,735 ft. in search of Vicksburg production.

In the same county, Plymouth Oil Co. No. 1 Wilburn, William Moore Survey, topped the Discorbis at 7,163 ft. and is drilling in a sidetracked hole below 7,421 ft.

The Lovells Lake field, Jefferson County, was apparently extended about 1,500 ft. as Humble Oil & Refining Co. No. 5 Broussard, on the northeast side, flowed 19 bbl. per hour through open drill stem at 7,775-7,822 ft.

In the new Martha pool, Liberty County, Stanolind Oil & Gas Co. staked location for No. 1 C. F. Seaberg, I.&G.N. Survey No. 7, 932 ft. due south of the discovery.

In the Seabreeze field, Chambers County, an important outpost well is being started by Jack Frazier and others on the C. M. Frost lease, about 3,550 ft. northeast of the field in Section 97, H.T.&B. Survey. It is being drilled on a farmout lease from Humble Oil & Refining Co.

Production from a new sand was opened on the east flank of the old West Columbia field, Brazoria County, as Mike Hogg and others completed No. 2 Hogg-Hamman for an initial production of 172 bbl. through a ¼-in. choke. The oil tested 20.5.

In the Goodrich area, Polk County, Jack Frazier and others No. 2 Dr. S. J. Bergman was abandoned in the Wilcox formation at 7,568 ft.

Location for a 7,500-ft. wildcat was staked by Dr. T. M. Neal for No. 1 fee, approximately 2 miles north of Land City in the Elisha Flack Survey.

TEXAS GULF COAST COMPLETIONS IN PROVEN FIELDS

Brazoria County

Old Ocean field: Harrison & Abercrombie No. 1 Osborn, 10,344 ft., 300 bbl., various chokes. West Columbia field: Mike Hogg and others No. 2 Hogg-Hamman, sand 2,549-68 ft., 172 bbl., ¼-in. choke.

Chambers County

Anahuac field: Humble Oil & Refining Co. No. 16 Tyrell, 7,080 ft., 672 bbl., ¼-in. choke.

Hardin County

Batson field: Atlantic Refining Co. No. 1 Charles Hooks, 4,697 ft., abandoned. Silsbee field: Republic Production Co. No. 2 Geldard, 7,080 ft., 87 bbl., jetting. Sour Lake field: George Echols No. 1 Merchant Estate, 4,760 ft., abandoned.

Jefferson County

Clam Lake field: Shell Oil Co., Inc., No. 3 McFaddin, 4,001 ft., temporarily abandoned.

Tyler County

Spurger field: Republic Production Co. No. 21 fee, 7,743 ft., 184 bbl., ¼-in. choke.

Harris County

Fairbanks field: Amerada Petroleum Corp. and others No. 5 Foley, sand 6,820-48 ft., 197 bbl., ⅛-in. choke. Amerada Petroleum Corp. and others No. 14 White, 6,854 ft., 174 bbl., ⅛-in. choke. Noble & Baker No. 4 Hillegeist, sand 6,825-45 ft., 146 bbl., ⅛-in. choke. Stanolind Oil & Gas Co. No. 5 Jahnke, sand 6,790-6,837 ft., 159 bbl., ⅛-in. choke. Union Producing Co. No. 8 Whitehead-Rash, perforated casing 6,841-46 ft., 154 bbl., ⅛-in. choke. Friendswood field: Humble Oil & Refining Co. No. 31-B Humble-West, sand 6,040-46 ft., 576 bbl., ¼-in. choke.

Wharton County

Louise field: Pure Oil Co. No. 2 Lancaster, sand 6,133-55 ft., 291 bbl., ¼-in. choke. Withers field: Texas Co. No. 60-C Pierce, perforated casing 5,535-41 ft., 20 bbl., ⅛-in. choke.

Michigan Fields

(Continued from Page 205)

Kalamazoo County

Richland Township (1s-10w)—Twin Drilling Corp. abandoned at 1,705 ft. No. 1 Upjohn Unemployment Corp., W½ NE SW Section 32.

Kent County

Algoma Township (9n-11w)—J. V. Wicklund Development Co. gave up No. 1 William Davis, SW SW SW Section 10 at 2,746 ft.

Walker Township (6n-12w)—Lenoran Petroleum Co. No. 2 Nelson Maynard, NE SW NW Section 4, had 750 bbl. initial at 1,762 ft. In same section, SE NE NW, Smith Petroleum Co. and others completed No. 2 William H. Gilbert Estate at 1,782 ft., but after acidizing got only 55 bbl. Wolverine Natural Gas Corp. No. 7 Rex Johnson, NW NW NW, had initial of 960 bbl. at 1,768 ft. No. 4 Gilbert, SE SE NW Section 4, drilled for Smith Petroleum Co. and others, had initial of 3,500 bbl. at 1,773 ft. Acidized at 1,898 ft., James J. McGerry, Inc., No. 1 Leon Liekiewicz, NE NE NE Section 6, rated 340 bbl.

Walker Township (7n-12w)—Voorhees Drilling Co. completed No. 1 William Cummings, SE SW SE Section 30, at 1,866 ft. for 2,400 bbl. It abandoned at 1,923 ft. No. 1 Powers, NE NE SW Section 31. In Section 32, W. L. Harvey No. 1 George Burgess, SE SE NE, rated 70 bbl. after acid at 1,915 ft. Archie M. Henry No. 2 Martin Slykhouse, SE SW SE, produced 40 bbl. after acid at 1,844 ft. No. 4 Edmund Whalen was boosted to 100 bbl. from 1,871 ft. In Section 33, Century Oil & Gas Co. No. 1 Peter Bergman, SE NE SW, rated 100 bbl. after being acidized at 1,796½ ft. Smith Petroleum No. 2 Zeeff, SW SW SW, rated only 25 bbl. after acid at 1,782 ft.

Wyoming Township (6n-12w)—C. A. Welch No. 1 Pere Marquette Railroad, NE SW SW Section 3, produced 1,200 bbl. after acid at 1,747 ft. Fortney Oil Co. abandoned at 2,211 ft. No. 1 Grand Rapids Industrial Land Association, SW SW SE Section 23.

Monroe County

Dundee Township (6s-6e)—A. & V. Oil & Gas Co. deepened No. 1 Roe, SW SE NW Section 30, and after a shot is getting 100 bbl. at 2,126 ft.

Van Buren County

Bangor Township (2s-16w)—Little-Fons Oil Co. abandoned as dry at 1,055 ft. No. 1 Mary Ryan, SW NW SW Section 22.

Bloomingdale Township (1s-14w)—Clark & Johnson completed No. 5 Bertha Maier, S½ NW SE Section 14, at 1,277 ft. with 150 bbl. after acid. C. C. Goff abandoned No. 4 Miller, NW NW NE Section 24.

Columbia Township (1s-15w)—Forrest Ruby abandoned No. 1 A. L. Teal, SW SE SW Section 1 at 1,221 ft. After acid Michigan Cities Natural Gas Co. No. 4 Corliss H. Strong, NW NE NE Section 11, was completed at 1,169 ft. for 50 bbl. after acid. J. H. Fitchett,

trustee, rated No. 2 Fox heirs, SE NW NE Section 13, at 1,000 bbl. after acid at 1,206 ft.

Waverly Township (2s-14w)—Hagan & Hagan abandoned No. 1 A. Voss, NW NW NE Section 3, at 1,495 ft.

West Texas Fields

(Continued from Page 186)

State Oil No. 10 State, 2,038-83 ft., 171 bbl. Sahara Oil Co. No. 1 Dillworth, dry and abandoned at total depth of 1,910 ft.

Glasscock County

A wildcat, Shell Oil Co., Inc. No. 1 Neal, dry and abandoned at total depth of 3,683 ft.

Hockley County

In the Slaughter field, Honolulu Oil Corp. No. 3-A-77 Slaughter, 4,920-5,000 ft., 1,258 bbl.

Scurry County

In the Sharon pool, Paul Teas No. 1 Bank of Snyder, dry and abandoned at total depth of 2,510 ft. Paul Teas No. 2 Thompson, 2,390-2,482 ft., 216 bbl.

Ward County

In the Hutchins area, Gulf Oil Corp. No. 126 Hutchins, 2,569-2,781 ft., 962 bbl. In the Johnson pool, Ohio Oil Co. No. 4 Johnson, 2,020-56 ft., 101 bbl. Roeser & Pendleton No. 2-8 Johnson, dry and abandoned at total depth of 3,198 ft. Sahara Oil Co. No. 3 Dorr, abandoned location. Sahara Oil Co. No. 6 Humble-Winter Garden, dry and abandoned at total depth of 1,900 ft.

Winkler County

In the Keystone pool, J. T. Barnes No. 4 Crume, 3,273-3,354 ft., 248 bbl. Bates-Reading Oil Co. No. 1 Cowden, 2,810-3,010 ft., 297 bbl.

Yoakum County

In the Wasson-Denver-Bennett pool, Devonian Oil No. 3 Ory, 5,010-5,117 ft., 1,562 bbl. Milhoan Production Co. No. 1 Willard, 4,912-5,142 ft., 1,390 bbl. Shell Oil Co., Inc. No. 3-A Baumgart, 4,880-5,161 ft., 1,015 bbl. Shell Oil Co., Inc. No. 6-C Baumgart, 4,840-5,169 ft., 932 bbl. Shell Oil Co., Inc. No. 7 Roberts, 4,930-5,240 ft., 403 bbl.

WEST CENTRAL TEXAS COMPLETIONS

(24-hour gages)

Callahan County

Hagerty No. 1 Weddington, dry and abandoned at total depth of 480 ft. Henderson No. 1 Toland, dry and abandoned at total depth of 1,190 ft. Wittmer No. 1 Jackson, dry and abandoned at total depth of 1,266 ft.

Comanche County

St. John & Choate No. 1 Smith, 607-28 ft., 52 bbl. Whiteside No. 1 Anderson, dry and abandoned at total depth of 622 ft.

Concho County

Clymore Oil Co. No. 1 Hill, dry and abandoned at total depth of 2,565 ft.

Eastland County

Dobbs Oil Co. No. 1 Greer, 2,620-65 ft., 75 bbl. Hickok Production Co. No. 1 Amis, 3,630-49 ft., 2,500,000 cu. ft. of gas. Hickok Production Co. No. 1 Stamps, dry and abandoned at total depth of 4,119 ft.

Fisher County

Bennett No. 1-A Martin, dry and abandoned at total depth of 3,902 ft.

Shackelford County

Cady & Edwards No. 2 Hickman, 404-416 ft., 5 bbl. Hammond No. 1 McKeever, 3,156-91 ft., 1,200 bbl. Owens-Snebold No. 3 Haterius, 3,176-77 ft., 1,100 bbl. Owens-Snebold No. 1 McCown, 3,144-58 ft., 3,500 bbl. Tide Water Associated Oil No. 6 Lanes, 981-991 ft., 500,000 cu. ft. of gas (used for repressuring lease).

Jones County

Bourn & Bradstreet No. 2 Richardson, 3,248-60 ft., 2,100 bbl. Fain-McGaha Oil Corp. No. 6 Shaheen, 1,870-94 ft., 420 bbl. Fain-McGaha Oil Corp. and Sinclair-Prairie Oil Co. No. 4 Church, 3,229-37 ft., 1,976 bbl. B. Fields No. 4-B Humphrey, 3,270-81 ft., 890 bbl. Guitar Trust estate No. 12 fee, 2,131-46 ft., 297 bbl. Iron Mountain Oil Co. and Humble Oil & Refining Co. No. 4 Davis, 3,234-53 ft., 3,632 bbl. W. H. Peckham No. 5 Brock, 1,871-87 ft., 280 bbl. Phillips Petroleum Co. No. 1 Montgomery, dry and abandoned at total depth of 2,622 ft. Roark No. 1 Southhard, dry and abandoned at total depth of 3,375 ft. Roberts No. 1 Herndon, dry and abandoned at total depth of 2,602 ft. Sandy Ridge Oil Co. No. 1 Alton, 1,907-13 ft., 257 bbl. J. Sprouls No. 2-A Nichols, 1,873-80 ft., 49 bbl.

PANHANDLE FIELD COMPLETIONS

(24-hour gages)

Gray County

Bradshaw Oil No. 4 Dave Pope, 3,147-3,283 ft., 215 bbl. Cities Service Oil No. 5 J. F. Meers "C," 3,117-3,250 ft., 258 bbl. Gulf Oil Corp. No. 16 S. Faulkner, 2,906-3,000 ft., 220 bbl. Lone Star Gas Co. No. 1 W. N. Foster, 2,577-95 ft., 10 bbl. Phillips Petroleum Co. No. 5 Merton, 3,130-3,230 ft., 58 bbl. Warner Oil Co. No. 8 A. Chapman, 2,626-74 ft., 1,440 bbl.

Hutchinson County

Magnolia Petroleum Co. No. 10 Southwest Oil & Development Co., 3,100-60 ft., 20 bbl. McIlroy Oil Co. No. 9 W. B. Haile, 2,990-3,042 ft., 662 bbl. Shell Oil Co., Inc. and Sinclair Prairie Oil Co. No. 1 S. Pritchard, 3,067-3,209 ft., 15,800,000 cu. ft. of gas. Stanolind Oil & Gas Co. No. 14 H. B. Terry, 2,970-3,014 ft., 189 bbl. Travelers Oil Co. No. 7 W. B. Haile, 2,960-3,040 ft., 603 bbl.

Moore County

Canadian River Gas Co. No. 2-A J. T. Sneed, 2,190-2,393 ft., 41,169,000 cu. ft. of gas. Shell Oil Co., Inc. and Sinclair Prairie Oil Co. No. 1 C. R. Jones, 2,870-3,207 ft., 41,500,000 cu. ft. of gas.

Ohio Fields

(Continued from Page 185)

top of St. Peter sand at 1,829 ft., with the Blue Lick water at 1,835 ft.

In Wood County, Perry Township, J. H. Crites and others No. 1 C. M. Werner, Section 34, had Trenton lime at 1,173 ft. with a small showing of gas and water in the top and was drilling at 1,335 ft.

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Canadian Fields

Completions and Operations in Northwest and in Ontario

By VICTOR LAURISTON

CHATHAM, Ont., July 22.—Deliveries from Turner Valley to major refineries in June totaled 787,125 bbl., compared with 638,994 bbl. in May and 418,287 bbl. in June 1938. For the 6 months of 1939 pipe-line runs reached 3,051,156 bbl., against 2,410,101 bbl. in the same period last year. Of the June deliveries, Imperial Oil took 11,828 bbl. of naphtha and 576,581 bbl. of crude, and British American Oil Co. took 7,913 bbl. of naphtha and 190,803 bbl. of crude. For the 6 months, Imperial Oil receipts amounted to 2,358,474 bbl. and British American receipts 692,682 bbl.

For the 5 months the total Canadian output was 2,544,472 bbl., or 6.8 per cent increase over the 2,381,771 bbl. produced in the same period last year.

Turner Valley Allowables

Effective July 18, the Petroleum and Natural Gas Conservation Board for Alberta increased aggregate allowables for the Turner Valley crude area from 27,000 to 28,000 bbl. a day, due to several new producers coming in. The total flow for Turner Valley crude wells, as tested through 1-in. choke, is 62,413 bbl. a day, with average gas-oil ratio considerably below 3,000 ft. Under the 27,000-bbl. allowable, crude wells steadily maintained their quotas.

In Section 32-18-2w5, on the Turner Valley west flank, George Harris and associates No. 2, LSD 15, finished in the lime at 7,565 ft., flowed 990 bbl. a day through 1-in. choke and was given allowable of 600 bbl. a day. British Colonial Oils No. 1, LSD 5, same section, finished at 8,364 ft., was acidized with 9,000 gal. and averaged 1,031 bbl. a day, allowable being set at 765 bbl.

In Section 16-18-2w5, Okalta Oil Co. No. 8, LSD 6, finished at 7,102 ft. with temporary allowable to 255 bbl., has been gun-perforated and is waiting for packer to make final test.

Anglo-Canadian Oil Co. No. 5, LSD 8, Section 31-18-2w5, finished at 8,640 ft., 463 ft. in the lime, is testing with indications of a large well.

In Section 5-19-2w5, West Central Turner Valley, Winalta Royalties No. 1, LSD 1, finished around 7,248 ft., 451 ft. in the Madison, and blew into initial production of 40 bbl. an hour, with heavy gas pressure. Calwin Royalties No. 1, LSD 15, same section, finished at 7,257 ft., 522 ft. in the lime, and has run tubing preparatory to acidizing.

Tests in the Lime

In Section 17-18-2w5, Anglo-Canadian Oil Co. No. 4, LSD 6, is below 8,096 ft. after getting the Madison lime at 7,855 ft. West of the main field, Scottish Petroleums No. 1, LSD 16, Section 19-18-2w5, is below 8,646 ft. after getting the Madison at 8,530 ft.

Three Royalite Oil Co. tests have recently entered the lime. In Section 5-19-2w5, West Central Turner Valley, Royalite No. 40, LSD 4, got the lime at 7,443 ft. and is deepening below 7,679 ft.

Home Oil Operations

An interim report of Home Oil Co., of Vancouver, B. C., states that by mutual agreement the negotiations with Standard Oil Co. of California for development of the Home acreage in North Turner Valley have been suspended for the present year. Since the Standard has not completed its contemplated arrangements in Alberta for refining and marketing, completion of the agreement at the present time would be of little value to either company. The Home company is proceeding with two tests in North Turner Valley which are expected to get production from 500 to 1,000 ft. higher than Home No. 2, which is the largest producer in the Turner Valley field. Contracts on both wells are on a turn-key basis. Holdings in this area now total 10,560 acres.

On the Pouce Coupe structure, in the northern foothills west of Peace River, Benedum & Trees No. 1 Guardian, Section 7-80-12w6, is below 3,160 ft. and coring at intervals, with production expected around 4,200 ft. Survey of the structure is being made to determine new locations.

New Royalite Tests

In the southwest extension, Royalite Oil Co. No. 44 is working on cellar in LSD 9, Section 8-18-2w5. Location is immediately south of Royalite Oil Co. No. 38, LSD 16, same section, which finished a very large well. Royalite No. 45 has been spotted in LSD 14, Section 5-19-2w5, in West Central Turner Valley, a little north and west of Vulcan Brown Petroleums No. 1 producer. Royalite No. 46 is working on cellar in LSD 2, Section 17-18-2w5, immediately west of Royalite No. 41, which has just entered the lime.

Steveville Operations

In the Steveville field, east of Calgary, Anglo-Canadian Oil Co.'s operations failed to develop commercial crude in two wells despite good shows encountered at the Madison-lime contact.

Anglo-Canadian Oil Co. No. 3, SW¼ Section 34-19-10w4, has been spotted on the Rainy Hills extension of the Steveville field southeast of No. 2. California Co. No. 1 has been spotted in Section 7-18-2w4 and will spud some time in August.

Northeast of Turner Valley, Dr. J. O. G. Sanderson will conduct a geological survey of 20,000 acres on the Sarcee Indian Reserve for Highwood-Sarcee Oils, Ltd., with a view to locating a commercial test.

South of Turner Valley, Alberta Pacific Consolidated Oils, Ltd., is arranging for development of acreage held for many years by Alberta Associated Oils, Ltd., of Calgary. Drilling is to start by October 15.

East Central Alberta

In the Vermilion area, East Central Alberta, W. Wilson and associates are working on cellar for a test for gas in Section 20-50-5w4. Location is 6 miles east and 1 mile south of Vermilion. The Wain Town Oil & Gas Co. and Battleview Oils, Ltd., are both interested in the new test.

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WILDCAT OPERATIONS

OKLAHOMA

Week Ending July 22

NORTHERN OKLAHOMA

Alfalfa County

F. W. Dye et al No. 1 Belter, C SE Sec. 32-28-10w. T.D. 550 ft.; W.O.C.

Atoka County

Giblett No. 1 Rich, SE SE SW Sec. 2-1-12. S.D. 728 ft.

Caddo County

Sinclair Prairie Oil Co. No. 1 Gorman, SW NW NW Sec. 1-16-13w. Drlg. sh. 4,322 ft.

Cleveland County

Hall & Briscoe No. 1 Mantooth, NW NW NW Sec. 24-6-1e. Wdfrd. 3,500 ft.; 2nd Wlx. 6,322 ft.; T.D. 6,387 ft.; D. &A.

Nels Burton No. 1 Boggs, NE NE SE Sec. 16-9-2w. 2nd Wlx. 7,585 ft.; T.D. 7,646 ft.; P.B. 7,473 ft.; retreated and swbd. down.

Nels-Burrton No. 1 Hirsch, NW NW NE Sec. 17-9-2w. O.W.P.B.; O.T.D. 7,692 ft.; T.D. 7,695 ft.

Sinclair-Prairie No. 1 Ward, SE SE SE Sec. 30-7-1. Drlg. 600 ft.

Comanche County

Mid Night Oil No. 1 Howe, NW NW NE Sec. 30-2-13w. O.W.D.D.: O.T.D. 703 ft.; T.D. 894 ft.; drlg. by tools.

Creek County

Anderson-Prichard No. 1 Geis, C NE SW Sec. 15-18-9. W.O.C. 1,272 ft.

Selby O. & G. Co. No. 1 Moore, SE NE SW Sec. 36-16-7. S.D. 1,480 ft.; wtr.

Ellis County

Enterprize Drlg. Co. No. 1 Wahl, SE NW NW Sec. 1-19-25w. Sd. 660-65 ft.; T.D. 730 ft.; S.D.O.

Garfield County

Gulf Oil Corp. No. 1 Thomas, C W½ SW SW Sec. 21-24-4w. Miss. 5,585 ft.; drlg. 6,072 ft.

Keriyn Oil Co. No. 1 Hein, NW NW NW Sec. 36-22-4w. T.D. 5,042 ft.; S. D.O.

Grady County

J. B. Nichlos No. 1 Bushnell, NW NE SE Sec. 7-5-8w. Drlg. 3,945 ft.

Grant County

Smythe & O'Mara No. 1 State, C SE SW Sec. 16-25-4w. Sdy. dolo. 5,945 ft.; Wlx. 5,985 ft.; T.D. 6,215 ft.; Schlumberger showed S.W.; D.&A.

Greer County

C. S. Amos No. 1 Banks, C NW SW Sec. 21-7-22w. Drlg. 375 ft.

Hughes County

Carter Oil No. 1 Hamilton, C W½ NE SW Sec. 33-4-9. T.D. 4,255 ft., S.D.

Harper County

Sinclair Prairie No. 1 George, SW SW SW Sec. 5-27-23w. Drlg. 7,357 ft.

Jackson County

English & Morgan No. 1 Lee, NW NW SE Sec. 36-2-19w. S.G. 1,360-63 ft.; T.D. 1,603 ft.; P.B. 1,243 ft.; S.D.O.

Jefferson County

H. M. Weir No. 1 Carmichael, NE NE SW Sec. 23-7s-7w. Drlg. 3,525 ft.

Kay County

Roy Starr No. 1 State, NE NE SW Sec. 13-29-2w. Miss. 3,638 ft.; Arb. 4,025 ft.; T.D. 4,075 ft.; D.&A.

Kingfisher County

Ace Gutowsky No. 1 Lankford, NE NE SE Sec. 34-17-6w. Miss. 7,014 ft.; Woodford 7,531 ft.; Msnr. 7,562 ft.; Wlx. 8,-105 ft.; 2nd Wlx. 8,275 ft.; T.D. 8,330 ft.; S.D.O.

Kiowa County

Bollen-Dillard & Roberts No. 1 Holcomb, NE NE SW Sec. 25-7-19w. S.D. 300 ft.

Hagerling et al No. 1 Bozeman, SE SE NE Sec. 14-5-18w. Drlg.

C. J. Hagerling No. 1 Kimrav, SW SW NW Sec. 36-5-18w. T.D. 1,000 ft.; M.I. csg.

Lewis & Meyers No. 1 Ford, NE NE SE Sec. 14-7-18w. Drlg. 1,025 ft.

Russell S. Tarr No. 1 Kelsay, SW SW NW Sec. 20-7-17w. Pay 1,050-51½ ft.; F. 70 B.O.P.H. by hds.; est. 1,500 to 2,000 B.O.P.D; S.I.

Lincoln County

Black Gold No. 1 Locquchment, NE NE NE Sec. 28-14-6. T.D. 3,175 ft.; est. 5 B.O.P.D.; S.D.

Cooper Drlg. Co. No. 1 Prowant, NW NW SE Sec. 11-16-4. Drlg. 3,299 ft.

W. A. Villines No. 1 Marshall, NW NE NE Sec. 28-15-4. T.D. 5,080 ft.; S.D.

Logan County

Cooper Drlg. et al No. 1 Miller, NW NW SE Sec. 4-17-4w. Drlg. 3,967 ft.

Noble County

Shell Oil Co. No. 1 Mosena, C W½ W½ SE Sec. 9-21-2. Drlg. 2,580 ft.

Pawnee County

Ed Kelly No. 1 Hill, SW SW SE Sec. 1-21-5. T.D. 2,845 ft.; whipstock 2,840 ft.; drlg. by tools.

Payne County

C. R. Hoagland No. 1 Stanolind, SE SE SW Sec. 27-18-4. Drlg. 3,075 ft.

Pottawatomie County

Alma Oil Co. No. 1 Johnson, SW NW SW Sec. 19-6-5. 2nd Wlx. 4,025 ft.; T. D. 4,062 ft.; P.B. 3,019 ft.; perf. 2,890-2,900 ft. in Earlsboro; F. 200 B.O.P.D.

F. W. Cooper No. 1 Strawn, SE SE SW Sec. 32-8-5. T.D. 4,411 ft.; S.D.

Kirk-Greenway et al No. 1 Boland, SE NE NW Sec. 28-11-3. Drlg. 3,070 ft.

Sequoyah County

Thompson Bros. No. 1 Ruby, NW NW NE Sec. 30-12-22. Hntn. 1,451 ft.; drlg 2,130 ft.

Seminole County

Flynn et al No. 1 Work, NE SE SE Sec. 19-8-7. Wlx. 4,276-92 ft.; set pipe.

Stanolind O. & G. Co. No. 1 McMahan, NE NE SE Sec. 12-9-7. T.D. 3,538 ft.; D.&A.

Washita County

Continental Oil Co. No. 1 Proctor, C NW Sec. 28-10-20w. Drlg. 13,442 ft.

John Koberg No. 1-A Harms, C NW NE Sec. 6-10-16w. T.D. 6,000 ft.; tools moved out.

L. B. McWhirter No. 1 fee, NW SW SW Sec. 34-8-19w. T.D. 2,250 ft.; S.D.

SOUTHERN OKLAHOMA

Carter County

Pure Oil Co. No. 1 Noble, NE SE Sec. 35-3s-1e. T.D. 8,500 ft.; P.B. 6,530 ft.; tstd. wtr. at 6,319 ft.; set 7-in. 4,632 ft.; tstd. Hntn. 4,638-4,737 ft.; csg. perf. 11 times with 133 shots at 4,160-4,324½ ft.; swbd. 105 B.O. in 24 hrs.

Choctaw County

Letchfield & Kirkaly No. 1 Schuester, SW SE SW Sec. 13-6s-14. Drlg. 150 ft.

Clyde Ross et al No. 1 Hardy, SE SE NW Sec. 21-7s-15. Drlg. L. 1,620 ft.

Jefferson County

H. W. Weir No. 1 Carmichael, NE NE SW Sec. 23-7s-7w. Drlg. sd.&sh. 4,380 ft.

Love County

Love Co. Oil Co. No. 1 Wilson, NW NW SW Sec. 35-6s-2e. Loc.

Marshall County

Hughes et al No. 1 Vittitto, C NE SE Sec. 11-5s-4e. O.W.D.D.; O.T.D. 7,100 ft.; T.D. 7,110 ft.; set plug 4,450 ft.; S. 51 B.F.P.R.

Johnson et al No. 1 Godfrey, SW SE NE Sec. 14-6s-6e. Loc.

Tillman County

Oil Inv. No. 2 Hammell, NE NW NW Sec. 6-5s-15w. O.W.D.D.; O.T.D. 2,829 ft.; T.D. 3,353 ft.; S.D.

KANSAS

Week Ending July 22 (Descriptions are East unless marked otherwise)

Atchison County

Earl Wakefield et al No. 1 Natl. Life Ins., C NW NE Sec. 17-6-20. Set 12-in. 875 ft.; drlg. 905 ft.

Barton County

Armer and Vernon O. & G. Co. No. 1 Hoffman, NW NW SW Sec. 18-16-11w. Tpka. 2,625 ft.; Lans. 3,045 ft.; T.D. 3,217 ft.; pot. 527 B.O.

B. B. & M. Drlg. Co. No. 1 Esfeld, NW NW SE Sec. 28-16-11w. Lans. 3,055 ft.; Arb. 3,337-45 ft., T.D.; pot. 2,750 B.O.; comp.

J. A. Brouk et al No. 1 Pospishel, NE NE SE Sec. 20-17-15w. Tpka, 3,010 ft.; Arb. 3,548 ft.; T.D. 3,564 ft.; S. 3 B. O.P.H.

Crown Pet. Co. No. 1 Marchand, NE SE NW Sec. 13-20-1w. M.I.M.

R. E. Day et al No. 1 Feltes, SE SE NE Sec. 14-16-12w. O.W.D.D. O.T.D. 1,875 ft.; T.D. 3,574 ft.; S. 13 B.O.P.H.

Butler County

Carey & Jennings No. 1 Kelly, C SW Sec. 20-27-4. S.D. 2,300 ft.

Cromwell & Lewis No. 1 Stern, NW NW NW Sec. 27-27-6e. M.I.M.

G. S. Lucas and White Star Oil No. 1-A Lucas, NE NW NW Sec. 14-28-6. Drlg. 1,040 ft.

Comanche County

Kerr-Lynn et al No. 1 McMoran, C SE NW Sec. 25-34-16w. Drlg. 4,820 ft.

Cowley County

Eason Oil Co. No. 1 Muret, SE SE NE Sec. 25-33-3. Drlg. 3,041 ft.

J. R. Lowell et al No. 1 Olsen, NE NE SE Sec. 13-35-7. M.I. mch.

E. J. Shaffer, Inc., No. 1 Starlin, NE NE SW Sec. 27-30-4. R.R.

Western Kans. O. & R. Co. No. 1 Gregory, SE SE NW Sec. 2-34-6. Rig.

Dickinson County

Franks et al No. 1 Huffman, NW NW SW Sec. 11-13-1. Hntn. 2,807 ft.; drlg. 2,925 ft.

Douglas County

Three Star Oil Co. No. 1 Griffith, C NW SE Sec. 4-14-8e. Spd.

Ellsworth County

I. W. Murfin No. 1 Loula, NW NW SE Sec. 28-16-10w. Arb. 3,282-3,301 ft., T.D.; pot. 640 B.O.

I. W. Murfin No. 1 Zajic, C S½ SW NE Sec. 31-16-10w. Spdg.

Geary County

Scheu & Tague No. 1 Aye, NW SW NW Sec. 10-12-8. Drlg. 1,965 ft.

Gray County

Champlin Ref. No. 1 Dirks, C NE SW Sec. 34-28-29w. Drlg. 6,305 ft.

Greenwood County

James Enright et al No. 1-A Schwab, SE SW SE Sec. 9-24-10. T.D. 1,750 ft.; D.&A.

C. L. Sheedy No. 1 fee, C E½ NE NW Sec. 13-25-12. T.D. 1,755 ft.; D.&A.

Kingman County

Skelly Oil Co. No. 1 Miller, CSL N½ NE Sec. 31-27-10w. Set 7-in. 4,067 ft.; R.U. S.T.

Miami County

Dave Judd No. 1 Waite, CNL SW SE Sec. 4-15-25. S.D. 732 ft.

Montgomery County

Lerke & Whortan No. 1 Clemmer, C SW

KEY TO ABBREVIATIONS USED IN DRILLING REPORTS

Abd., abandoned.
Acd., acidized.
B.O., barrels of oil.
B.P.D., barrels per day.
B.D., barrels daily.
B.P., back pressure.
B.R., building rig.
B. ck., bottom choke.
Br. sh., brown shale.
B.S., basic sediment.
C.&P., cellar and pits.
Cd. or Crd. cored.
C.D., correct depth.
Cg., coring.
Cmtd., cemented.
C.O., cleaning out.
Comp., completed.
Compr., compressor.
C.P., casing pressure, also cement through perforations.
Csg., casing.
D.D., drilling (or drilled) deeper.
Drlg. or Drg., drilling.
Drk. or Dk., derrick.
D.S., drill stem.
D.S.T., drill stem test.
D.&A., dry and abandoned.
Fsg., fishing.
Gbo., gumbo.
G.I., gas injection.
Gr., gravity.
Gr. sd., gray sand.
Grn. sh., green shale.
Hd. sd., hard sand.
H.F.W., hole full of water.
I.P., initial production.
L., lime.
L.D.D., later drilled deeper.
Lnr., liner.
Loc., location.
M.I.M., moving in material.
M.I.R., moving in rig.
M.I.R.T., moving in rotary tools.
M.O.T., milling on tools.
O.I.H., oil in hole.
O.S., oil sand.
O.T.D., old total depth.
O.W.D.D., owell drilling deeper.
O.W.P.B., old well plugging back.
P.B., plugging back.
P.B.P., pulling or pulled big pipe.
P.L., pipe line.
P.L.O., pipe line oil.
Pmpg., pumping.
P.O.P., putting on pump.
P.P., pulled pipe.
Rd. sd., red sand.
Rd. sh., red shale.
Recmt., recemented.
Recvd., recovered.
Rmg., reaming.
Redrlg., redrilling.
Rng., running.
R.O.G., rig on ground.
R.P., rock pressure.
R.U., rigging up.
R.U.R., rigging up rotary.
R.U.S.T., rigging up standard tools.
R.&T., rods and tubing.
S. or Sd., sand.
S.D., shut down.
Sdy. sh., sandy shale.
Sdtrk. or St., sidetracking.
S.D.P.L., shut down for pipe line.
S.D.O., or S.D.W.O., shut down awaiting orders.
S.G., show gas.
Sh.&L., shale and lime.
S.I., shut in.
S.I.P., shut in, prorated.
S.L.M., steel line measurement.
S.O., show oil.
S.O.G.&W., show of oil, gas and water.
Spdg. or Spd., spudding.
S.R., straightreaming.
Stdg., standardizing (also standing)
S.W., salt water.
Swbg., swabbing.
T.A., temporarily abandoned.
Tbg., tubing.
T.D., total depth.
T. ck., top choke.
T.P., tubing pressure.
Tr., tract.
Tstd., tested.
U.R., underreaming.
W.I.H., water in hole.
W.O., workover.
W.O.C., or W.O.C.S., waiting on cement to set.
W.O.O., waiting for orders.
W.P., working pressure.
W.S.O., water shutoff.
W.S.S.O.K., water shutoff O.K.
W.S.R. or W.O.S.R., awaiting standard rig.
Wtr., water.

SW Sec. 21-32-15. Arb. 1,530 ft.; set 5-in. csg.; W.O.C.

Kiowa County

Sinclair Prairie No. 1 Price, NW NW SW Sec. 22-28-20w. Miss. 4,910 ft.; Arb. 5,538 ft.; T.D. 5,800 ft.; prep. to test.

Osage County

J. M. Edwards No. 1 Detrick (O.W.D.D.), C NW SE Sec. 21-14-15. O.T.D. 1,200 ft.; S.G. in sh. 1,618-24 ft.; S.D. 1,640 ft.

Pratt County

Skelly Oil Co. No. 1 Royse, C SW Sec. 9-28-11w. Drlg. 3,326 ft.

Reno County

Herndon Drlg. Co. No. 1 Compton, CEL SE NW Sec. 31-25-10w. T.D. 4,000 ft.; D.&A.

Rice County

Frank Hollow et al No. 1 Guldner, SE SE SE Sec. 5-18-9w. Drlg. 2,450 ft.
Phoenix Drlg. No. 1 Linville, SW SW SE Sec. 4-20-10w. Drlg. 2,135 ft.
E. J. Shaffer No. 1 Bauer, C W½ SW SW Sec. 23-21-7w. T.D. 3,402 ft.; pot. 790 B.O.
Skelly Oil Co. No. 1 Bernstorf, CSL SE SE Sec. 22-19-10w. Arb. 3,282-94 ft.; pot. 734 B.O.
C. H. Weaver No. 1 James, NE NW SW Sec. 25-19-10w. T.D. 3,301 ft.; D.&A.

Rooks County

Broadview Oil No. 1 Baxter, NE SW SW Sec. 35-8-16w. Drlg. 2,435 ft.

Russell County

Braden & McClure No. 1 Biehm, SW SW NW Sec. 11-14-14w. T.D. 3,300 ft.; D.&A.
Central Pet. No. 1 Crisman, SW NW NE Sec. 20-14-14w. Drlg. 1,710 ft.
Phillips Pet. No. 1 Maier, SW SW NE Sec. 15-15-14w. Lans. 3,002 ft.; Arb. 3,249-57 ft., T.D.; 2,800 ft. O.I.H.; P.B. 3,253 ft.
Shell Oil Co. No. 1 Berrick, NW NW SE Sec. 13-15-13w. T.D. 3,386 ft.; D.&A.
A. H. Witt No. 1 Speere, SW SW NE Sec. 7-14-14w. Drlg. 2,960 ft.

Sherman County

Goodland Ind. Gas Co. No. 1 Wilcoxson, SE NW Sec. 27-8s-39w. T.D. 1,100 ft.; est. 25,000 cu. ft. gas.

Stafford County

Virginia Drlg. No. 1 Tieperman, NE NE SW Sec. 29-21-12w. Arb. 3,610-17 ft.; 300 ft. O.I.H.

Sumner County

Palmer Oil Corp. No. 1 Lawson, SW SW SE Sec. 9-35-2e. Drlg. 1,100 ft.

Woodson County

Bird, Hanley & Sheedy No. 1 Pingrey, C S½ SE Sec. 22-25-15. Spd.
Roby et al No. 1 Meairs, SW SW NW Sec. 21-25-14. Bvlle. 1,367-70 ft.; S.O.; S.D.

MISSOURI

Andrew County

Davis Bros. et al No. 1 Gee, NW NW SE Sec. 28-60n-35w. S.O. in Bart. 995 ft.; S.D. 1,100 ft.; reprs.
Jones & Hyde No. 1 Holt, SE NW NE Sec. 34-60-35w. Bart. 1,003 ft.; S.D. 1,038 ft.; reprs.

Bollinger County

Delmund Oil No. 1 Cooper, SE SE SE Sec. 14-29-9e. Drlg. 1,450 ft.

Butler County

Coastal Pet. et al No. 1 Pierson. SW NE NW Sec. 27-22-4e. Drlg. 1,637 ft.

Clay County

Eastern Drlg. Co. No. 1 Williams, NW NW NE Sec. 28-53-32w. S.S.O. 475-80 ft.; gas 595 ft.; set csg. 1,452 ft.

Clinton County

C E King et al No. 1 Willis, NE SE SE Sec. 13-55n-32w. Miss. 895 ft.; S.D. 1,-886 ft. in Wlx.

DeKalb County

Geo. W. Moore No. 1 McQuate, NE SW SW Sec. 11-57n-31w. Miss. 1,075 ft.; S.D. 1,428 ft.

Hickory County

J. W. Sims No. 1 Wilson, NW NW NW Sec. 3-37n-21w. Drlg. 1,634 ft.

Holt County

Brin & Nathan No. 1 Decker, C NW NW Sec. 1-61-38w. Drlg. 190 ft.
Brin & Nathan No. 1 Garrett, C NE NE Sec. 1-61n-38w. Loc.
Markham et al No. 1 Gaffney, SW SE SW Sec. 24-63-40w. R.R.
J. H. Everitt et al No. 1 Spring, SW SW SE Sec. 30-62-38w. T.D. 2,800 ft.; D.P. stk.; set whpstk.

Livingston County

Davis Bros. No. 1 Minning, SE SE NW Sec. 22-58-23w. Fsg. 380 ft.

Mercer County

Geo. W. Moore No. 1 Castell, NE NE NE Sec. 32-65-24w. Loc.
Geo. W. Moore No. 1 Moss, NW SW SE Sec. 30-65-24w. Drlg. 501 ft.

Platte County

Berry Bros. No. 1 Rule, C SW SW Sec. 20-53-33w. Bvlle. 812-914 ft.; Burgess 958-61 ft.; Hntn. 1,442 ft.; drlg. Wlx. 1,790 ft.

Putnam County

E. F. Slater et al No. 1 Sayer, NE NW SE Sec. 14-65-18w. St. Peter sd. 1,375-1,525 ft.; showed fresh wtr.; Arb. L. 1,608 ft.; T.D. 1,685 ft.; D.&A.

Schuyler County

T. E. Baldwin No. 1 May Johnson, NW NE NE Sec. 21-65-15w. Mch.

Shelby County

Wright & Turner No. 1 Turner, C NW NW Sec. 27-59n-9w (wildcat). Drlg. 315 ft.

Sullivan County

H. V. Elwell No. 1 Taylor, SW NW NE Sec. 12-62-21w. Drlg. 437 ft., hd. L.

ARIZONA

Maricopa County

Sam F. Reaves No. 1 Fuqua, NW NW NE Sec. 34-1n-4w. Drlg. 2,305 ft.
Peoples G. & O. Co. No. 1 Gardner, SE Sec. 2-1n-3e. Spudded 18-in.; set csg. 130 ft.

Cochise County

Funk Dev. Co. No. 1 fee, SE NE Sec. 27-13s-30e. Cg. 6,596 ft., agglomerate and volcanic tuff; T.D. 6,613 ft. (last report.

Apache County

Rincon Drlg. Synd. No. 1 State, N½ NW NE Sec. 28-13n-27e. Drlg. 500 ft.

Pima County

R. W. Schenck No. 1 Boyce, Sec. 22-19s-17e. S.D. 400 ft.

Yavapai County

Ari-Copa Drlg. & Mining Co. No. 1 Puntenney, SW¼ Sec. 27-13n-2w. Drlg. 164 ft.
China Valley Oil Dev. Co. No. 1 State, Sec. 20-13n-2w. Drlg. 900 ft.

Yuma County

Yuma Valley O. & G. Co. No. 1 Musgrove, SW NW NE Sec. 11-11s-25w. Drlg. 300 ft.

ARKANSAS

Bradley County

Amerada Pet. Corp. No. 1 Bradley Lbr. Co., 660 ft. N, 460 ft. E, SW cor. SE NE Sec. 14-17-10. Drlg. sh. 4,125 ft.

Columbia County

Arkansas Fuel Oil Co. No. 1-C D. Glasgow, C NW SW Sec. 23-17-20. Drlg. sd.&sh. 6,547 ft.
Atlantic Ref. Co. No. 2 Foster, C SW NE Sec. 24-17-20. Drlg. L. 6,415 ft.
Atlantic Ref. Co. No. 1 Pine Woods Lbr. Co., C NE NE Sec. 16-18-22. Set 9⅝-in. csg. 4,102 ft.; D.S.T. failed 6,950-60 ft.; cd. 6 ft. soft med. grained oil sd. 7,135-61 ft.; D.S.T. 7,132-45 ft. failed; S.W. sd. 7,149-67 ft.; drlg. sd.&sh. 7,-331 ft.
Atlantic Ref. Co. No. 1 L. Spain, C SW SW Sec. 18-17-19. T. Bknr. 7,375 ft.; T. L. 7,470 ft.; T. por. 7,495 ft.; cg. 7,-497 ft.
Lion Oil Ref. Co. No. 1 Tissue, C SW NW Sec. 15-18-19. T. L. 8,023 ft.; T. por. 8,221 ft.; cg. 8,239 ft.
Mid-Continent Pet. Corp. No. 1 Foster, C NE NW Sec. 24-17-20. Drlg. hd. sd. &sh. 6,703 ft.
Oliphant Oil Co. No. 1 J. Jones, C SE SE Sec. 16-17-20. Set 13⅜-in. csg. 120 ft.; drlg. 7,435 ft.
Phillips Pet. No. 2 Longino, Sec. 15-17s-20w. Drlg. 2,747 ft.
Phillips Pet. Co. No. 1 Walthall, C SE SW Sec. 15-17-20. Drlg. sh. 2,700 ft.
Phillips Pet. Co. No. 2 Walthall, C SW SW Sec. 15-17-20. R.U.
Placid Oil No. 2 Couch, Sec. 19-17s-19w. Drlg. L. 4,202 ft.
Shell Pet. Corp. No. 2 Garrett, SW cor. NE SE Sec. 13-17-20. Drlg. L. 4,190 ft.
Southwood Oil Co. and Ark. Fuel Oil Co. No. 1 Jas. Johnson, C NE SE Sec. 22-17-20. R.U.
Southwood Oil Co. No. 2 Foster, C SE NE Sec. 24-17-20. Drlg. sh.&sd. 7,196 ft.
Southwood Oil Co. No. 1 D. Glasgow et al, C NE NE Sec. 22-17-20. Drlg. sh. 6,860 ft.
Southwood No. 2 H. F. Simmons, Sec. 22-17s-20w. Drlg. sh. 4,260 ft.
Southwood No. 2 R. E. Walthall, Sec. 22-17s-20w. Drlg. L.&sh. 4,775 ft.
Standard Oil No. 1 J. A. Foster, Sec. 19-17s-19w. Drlg. 3,543 ft.
Standard Oil Co. of La. No. 1 Nancy Johnson et al, 660 ft. SW cor. SW SE Sec. 9-16-22. R.U.
Twin City Syndicate No. 1 J. H. Hollensworth, 1,320 ft. E, 660 ft. S NW cor. SW¼ Sec. 31-17-18. Set 13⅜-in. csg. 148 ft.; cd. S.W. sd. 5,544-59 ft.; T. Cotton Valley 5,589 ft.; drlg. sh. 5,-659 ft.
G. H. Vaughn No. 2 J. Jones, C SE NE Sec. 21-17-20. T. Bknr. 7,442 ft.; T. L. 7,485 ft.; T. por. 7,547 ft.; set 6-in. csg. 7,543 ft.; W.O.C. 7,592 ft.

Craighead County

Tanmark, Inc., No. 1 R. M. Martin, Sec. 35-14-3e. Drlg. 2,635 ft.

Howard County

Wm. James No. 1 I. M. Brooks, 115 ft. W, 462 ft. N, SE cor. NW NW Sec. 2-8s-27w. Set 10-in. csg. 274 ft.

Lafayette County

East Texas Ref. Co. et al No. 1 Bodcaw Lbr. Co., C N½ NE NE Sec. 19-16-23. S.D. 3,135 ft.; rig repair.
E. Tex. Ref. Co. No. 1-B C. Warren, Sec. 24-16s-24w. Drlg. anhy. 3,276 ft.
Standard Oil Co. of La. No. 1 Eddy et al, 645 ft. E, 660 ft. N, SW cor. Sec. 7-16-22. Set 9⅝-in. csg. 2,053 ft.; T.D. 2,060 ft.; W.O.C.

Little River County

C. & M. Drlg. Co. No. 1 Strawn, SW cor. SE Sec. 20-10-32. Cd. 1,270-80 ft.; sh.& wtr. sd.; reported S.O. 1,365-70 ft.; 1,542-64 ft. sd. and 1,564-74 ft. sdy. L.; cor. T.D. 1,598 ft.; set 7-in. csg. 1,590 ft. (cor.); S.D.W.O. 4,591 ft.

Lonoke County

Cabot Drlg. Club, Inc., No. 1 Benson townsite, Sec. 18-4n-9w. Reported S.O. 1,400-50 ft.; hole clean; ran survey to 2,573 ft.; P.B. 1,470 ft.; set 4½-in. csg. 1,390 ft.; S.D.W.O. 2,760 ft.
W. L. Tedford No. 1 Anderson, Sec. 7-4n-9w. Rmg. 1,001 ft.

Miller County

Vacarro & Waterman No. 1 Westbrook, C SW SW Sec. 1-20-28. T. por. L. 6,-165 ft.; set 5½-in. csg. 6,164 ft.; acidized with 3,500 gal.; swbd. 2 B.P.H. until swbd. dry; flwd. 60 B.O.P.D.; T.D. 6,199 ft.; installing flow valves 6,192 ft.

Nevada County

Benedum & Trees Oil Co. No. 1 McRae, 150 ft. NE cor. SE NE Sec. 4-14-20. Set 7-in. csg. 2,098 ft.; T. sd. 2,099 ft.; D.S.T. 2,082-2,100 ft.; tstd. mud and oil in 20 min.; W.O.S.R.; 1,000 ft. O.I.H. and 400 ft. S.W.I.H.; T.D. 2,100 ft.

Ouachita County

J. E. Crosbie, Inc., No. 2 F. A. Laney. Sec. 36-15-16. Stk. 5⅛-in. 2,777 ft.; set 966 ft. at 2,777 ft.; T.D. 2,832 ft.; will reperf.
Phillips Pet. Co. No. 1 J. D. Reynolds, 330 ft. SE cor. SE NW Sec. 27-15-15. O.W.W.O.; O.T.D. 4,926 ft.; comp. as disc. well, Snow Hill field; perf. csg. 2,732-35½ ft., 2,728-31½ ft., 2,744-47½ ft., and 2,756-60 ft.; est. 2,300 ft. F.I.H., 1% oil; P.B. 2,770 ft.; set cmt. retainer 2,719 ft.; sqzd.; S.D.; W.O. 2,746 ft. (no report).

Pike County

Bruce E. Wallace No. 2-A Glenn Tilyeu, 320 ft. N, 330 ft. W SE cor. Sec. 26-8s-24w. Set 6-in. csg. 385 ft.; reported S.O. 400 ft.; bailing to test.

Union County—Schuler

Lion Oil Ref. Co. No. 1 S. Bessie, C S½ Lot 5, NW Sec. 7-18-7. 10¾-in. csg. 1,-935 ft.; T. Jones sd. 7,625 ft.; 7-in. 7,-695 ft.; T.D. 7,707 ft.
Lion Oil Ref. Co. No. 3 Clay, C S½ SE SW Sec. 12-18-18. Drlg. sh. 5,147 ft.
Lion Oil Ref. Co. No. 2-A Justiss, C S½ NW NE Sec. 13-18-18. Drlg. L. 3,819 ft.
Phillips Pet. Co. No. 9 Sewell, 330 ft. SW cor. NW Sec. 7-18-17. Drlg. sh. 375 ft.

Union County—Other

S. S. Alexander No. 1 J. P. Pickering, C NW NW SW Sec. 31-16-15. Cd. 2,151-52 ft.; soft por. sat. sd., salty taste; D.S.T. S.S.W.; cd. 2,152-56 ft.; rec. 2 ft. por. S.W. sd.; cd. 2,490-2,510 ft., gr. shaly sd. and hd. gr. sd.; W.O. 2,670 ft.
J. R. Lockhart No. 1 P. Jerry, 665 ft. W, 235 ft. S, NE cor. NE SE Sec. 15-17-14. T.D. 2,774 ft.; did not comp.; flwd. 2 days and went dead; cd. sat. Blossom sd. 2,768-74 ft.; set 5-in. csg. 2,760 ft.; tstg.
Bob Milam No. 1 Primm Est., SE cor. Lot 5, NE Sec. 1-16-16. Set 5-in. csg. 2,560 ft.; T.D. 2,579 ft.

NORTH MISSISSIPPI

Clarke County

Jeremiah L. Ryan et al No. 1 M. Eddins, 500 ft. SE cor. Sec. 29-2n-14e. S.D. 1,502 ft.

Humphreys County

Union Prod. Co. No. 1 C. B. Box, Sec. 15-14n-4w. Drlg. 4,412 ft.; no report.

Lafayette County

Adams O. & G. Co. No. 1 Lewellen, Sec. 9-10s-1w. Drlg. sh. 1,620 ft.; no report.

Prentiss County

Home Dev. Co. No. 1 Allen, Sec. 8-7s-9e. Drlg. L. 875 ft.; no report.

Simpson County

Cleve Love No. 1 N. E. Garner, SW cor. SW NE Sec. 1-10n-17w. S.D. 3,145 ft.

LOUISIANA

N. LOUISIANA WILDCATS

Blenville Parish

Ark. La. Gas Co. No. 2 Gayoso, 660 ft. SW cor. SE Sec. 14-16-10. T. Tr. Pk. 5,432 ft.; D.S.T. 5,796-5,805 ft. tstd. dry in 26 min.; set 8⅝-in. csg. 6,300 ft.; T.D. 8,319 ft.; set csg.; per. 8,285-8,314 ft.; flwd. est. 2,000,000 cu. ft. gas and sprayed S.W.; acdzd. with 6,000 gal. and tstd. est. 4,000,000 cu. ft. gas and spray S.W.; perf. 8,110-70 ft. and 8,-306-12 ft.; flwd. 39 bbl. dist., 16 bbl. S.W. and 1,500,000 cu. ft. gas on ¼-in. ck.; acdzd. with 2,000 gal. and tstd. same; R.P. 2,818 lb.; drlg. sh.&L. 8,-407 ft.; D.S.T. 8,310-8,404 ft.; tstd. 750 ft. mud cut with gas in 1 hr. 47 min.; T.D. 8,532 ft.; S.G.; tstg.
Ark. La. Gas Co. No. 1 Long Bell Mineral Co., NW cor. NW¼ Sec. 14-16n-10w. Drlg. sh. 3,907 ft.
Hunt Oil Co. No. 1 Hodge-Hunt Lbr. Co., 300 ft. E, C Sec. 36-17n-6w. Drlg. sd.& sh. 1,010 ft.

Bossier Parish

H. M. Harrell et al No. 1 Thompson Unit. 70 ft. NW, C SE Sec. 20-17-11. Set 5½-in. csg. approx. 5,700 ft.; W. O.C.
Union Prod. Co. No. 1 Lincoln Ld. Co., 1,320 ft. W, C Sec. 17-16-10. Drlg. sh. 948 ft.

Caddo Parish

Frank G. Bandein No. 1 Caddo Levee Bd., 150 ft. S, 350 ft. W, NE cor. NW SE Sec. 26-21-16. W.O.S.R. 947 ft.
J. M. Buckler No. 1 Barrett et al, 777 ft. W, 150 ft. S, NE cor. Sec. 11-20-16. R.U.
Burton & Harlan No. 2-A Perche, 500 ft. S, 1,121 ft. E, C Sec. 1-20-16. R.U.
East Texas Ref. Co. No. 1 Atkins, SW SE Sec. 5-23n-13w. Set 7-in. csg. T.D. 6,137 ft.
East Texas Ref. Co. No. 2 U. S. Govt., Sec. 4-23n-15w. Set 7-in. csg. 6,131 ft.; W.O.C.
W. C. Feazel and Eagle Prod. Corp. No. 1 Caddo Mercantile Co., 2,310 ft. W. 955 ft. S, NE cor. Sec. 5-23-15. Drlg. L. 5,921 ft.
H. Fotiades No. 1 Bath, S of NW cor. Sec. 3-17n-15w. Drlg. L.&sh. 4,027 ft.
Harry Fotiades No. 1 Furman, 393 ft. S, 870 ft. E NW cor. NE Sec. 35-18-14. Set surf. csg. 297 ft.; drlg. sh.&L. 4,-785 ft.
Hamilton & Stone No. 1 Atlanta, 500 ft. S, 244 ft. W, NE cor. NW Sec. 2-20-16. Set 6-in. csg. 1,701 ft.; T.D. 1,701 ft.; W.O.S.R.
A. R. Hancock No. 4 Standard Oil Co., Sec. 18-21n-15w. Set 5⅛-in. csg. 1,040 ft.; W.O.C.
J. M. Harper No. 1 Waller, 453 ft. E, 510 ft. S, NW cor. Sec. 28-18-14. Set 9⅝-in. csg. 1,370 ft.; W.O.C. 3,886 ft.
Hurricane Pet. Co. No. 2 De Soto Corp., W of NE cor. Sec. 26-18n-14w. Drlg. sh. 3,650 ft.
L. & A. Oil Co. No. 3 Burton, 1,163 ft. E, 979 ft. S, NW cor. Sec. 7-20-15. Set 6⅝-in. csg. 1,339 ft.; W.O.C.
Leisk & Fotiades No. 1 Sokolski, S of NE Sec. 35-18n-14w. Drlg. ch. rk. 2,457 ft.
Linham & Jones No. 3 fee, E of NW cor. Sec. 21-20n-15w. Cg. 2,240 ft.
McDonald & Campbell No. 12 Youree, C SW SE Sec. 13-20-15. W.O.S.R. 2,269 ft.
W. M. McDonnell No. 2 Burton, 7-20n-15w. 6-in. csg. 1,340 ft.; W.O.C. 1,356 ft.
J. Ober & Sons No. 2 fee, 920 ft. N, 200 ft. W, C Sec. 36-2-16. W.O.S.R. 2,275 ft.
Oblinger & Ritter No. 3 Boisseau, 1,220 ft. N, 1,310 ft. E, SW cor. SE Sec. 34-21-16. S.D. 820 ft.
Red Iron Drlg. Co. No. 1 Agurs, 1,900 ft. S, 715 ft. E, NW cor. Sec. 25-18-14. 9⅝-in. csg. 1,462 ft.; T. por. L. 5,-557 ft.; rng. csg. 5,572 ft.
John Schmidt No. 2 Sprouil, 970 ft. N, 570 ft. W, SE cor. Sec. 32-20-16. Tstd. S.W. 1,654 ft.; W.O.
Seymour Oil Co. No. 1 Hughes et al. 330 ft. NE cor. NW Sec. 15-20-15. Prep. set csg. 2,204 ft.
Stanolind O. & G. Co. No. 1, 131 Dillon Hrs., C SE NE Sec. 14-21-15. Set 16-in. csg. 494 ft.; 10¾-in. csg. 4,520 ft.; cd. oil sd. 3,912-20 ft.; 3,922-26 ft., and 3,941-45 ft.; D.S.T. 3,900-47 ft.; tstd. 170 ft. mud; S.O. 400 ft. S.W. 7 min.; ¾-in. ck.; cleaned hole; drlg. ahd. 5,-511 ft.
Joe Strahan No. 1-A Stiles, 3,658 ft. N, 1,050 ft. E, SW cor. Sec. 29-21-16. W.O.C. 2,404 ft.

Joe G. Strahan No. 2-A Stiles, 4,165 ft. N. 473 ft. E, SW cor. Sec. 29-21-16. W.O.C. 2,400 ft.
Terrill & Horton No. 1 Smith, 200 ft. S and W, C Sec. 36-21-16. R.U.
Texas Co. No. 15-B Noel fee, 1,100 ft. S, 1,051 ft. E, NW cor. Sec. 14-21-15. Drlg. 50 ft.

Caldwell Parish

Critchett & Woods (formerly E. T. Oakes) No. 1 Kyles, NE cor. SW NE. Sec. 18-11-3e. S.D.O. 3,003 ft.

Catahoula Parish

Ross Morel et al No. 1 Ballard Est., 330 ft. SE cor. SE SW Sec. 8-9n-7e. Cg. 2,840 ft.

Claiborne Parish

E. T. Oakes et al No. 1 Lloyd, C SW SW Sec. 10-20-5. R.U.
Union Prod. Co. No. 3 T. Durrett, 505 ft. N, 333 ft. E, C Sec. 5-19-5. T. anhy. 3,958 ft.; drlg. sh.&L. 4,901 ft.

De Soto Parish

Daniel Murray No. 1 Russell, 50 ft. N, 500 ft. W, SE cor. NE NW Sec. 12-11-16; O.W.D.; O.T.D. 2,046 ft.; S.D.: W.O.; D.S. 2,395 ft.
Roosth & Genecov Prod. Co. No. 1 Woolums, 990 ft. S, 330 ft. E NW cor. SW¼ Sec. 29-12-12. S.D. 2,700 ft.
C. H. Tuttle No. 2-A Wemple, E NW cor. SW¼ Sec. 14-12n-11w. R.U.

Grant Parish

R. L. Arnold No. 1 Swope, Sec. 16-9n-1e. W.O.C. 80 ft.
Longwood O. & G. Co. No. 1 K. B. Thompson, Sec. 5-5n-3w. Drlg. 67 ft.

Morehouse Parish

Union Prod. Co. No. 1-A Tensas-Delta, 1,894 ft. W, 1,584 ft. S, NE cor. SE Sec. 8-22-4. R.U.

Sabine Parish

Ed Bailey No. 1 Hale, 330 ft. NW cor. NE NW Sec. 6-7-12. W.O.C. 60 ft.
Geo. Ellis No. 1 Walker, 500 ft. NW cor. NW SE Sec. 8-4-12. Set 12½-in. csg. 276 ft.; reported S.O. 2,180 ft. and 2,263-65 ft.; rng. csg. 2,269 ft.; cd. sdy. sh. 2,265-69 ft.; set 7-in. csg. 2,250 ft.; D.S.T. sd. 2,797-2,807 ft.; rec. 1,000 ft. S.W.; D.S. stk., T.D. 2,817 ft.; (cor.).
M.C.M. Drlg. No. 1 Sipulvado, Sec. 4-7n-13w. R.U.
Okla.-Tex. Tr. No. 2 Frost Lbr. Ind., 330 ft. SE cor. NE SW Sec. 22-9-13. Set 12½-in. csg. 84 ft.; 8-in. csg. 1,568 ft.; T. ch. rk. 1,568 ft.; T.D. 1,820 ft.; flwg. est. 10 B.P.D. through cracked valve.
K. R. Phillips No. 1 Craig, 335 ft. S, 330 ft. E NW cor., SE Sec. 22-9-13. 5-in. csg. 1,568 ft.; W.O.C. 1,568 ft.
Potter et al No. 2 Ebarb, NW cor. NE SE Sec. 4-7n-13w. Drlg. ch. rk. 2,110 ft.
W. M. Quick No. 1 Sabine, SE cor. NE NE Sec. 8-7-13. Arng. test 3,547 ft.
H. M. Sneed No. 1 Leone, SW cor. NW SE Sec. 8-7-13. T.D. 1,962 ft.; drlg. 2,061 ft.
Spier & Chestnut No. 1 De Soto Corp., NW cor. SE NE Sec. 27-10n-13w. 7-in. csg. 1,426 ft.; tstd. S.G. 1,932 ft.
Sutton-Zwolle Oil No. 4 Bowman-Hicks Lbr., NW cor. NW SE Sec. 24-7n-14w. 8⅝-in. csg. 2,125 ft.; T.D. 2,130 ft.
A. Tillman No. 1 Ritter, 400 ft. NE cor. SE SW Sec. 26-8-12. Set 7-in. csg. 2,255 ft.; S.D. 2,400 ft.
J. A. Williams No. 1 Long Bell Lbr. Co., 250 ft. S, 550 ft. W. C Sec. 33-8-14. T. ch. 2,097 ft.; used 2,000 gal. acd. and tstd. dry; S.D. 2,247 ft.

Webster Parish

Geo. Barham No. 1 A. J. Hodges, 1,916 ft. N, 728 ft. E, SW cor. Sec. 23-21-10. O.T.D. 4,574 ft.; jnkd. hole; skdd. 75 ft. N and spdd. new hole; 9⅝-in. csg. 1,275 ft.; T. Tr. Pk. 5,524 ft.; Hllwy. sd. 5,527 ft. (oil); set 5½-in. csg. 5,799 ft.; T.D. 5,839 ft.
Hunt Oil Co. No. 1 Coffee, C SW NW Sec. 19-21-9. T. Tr. Pk. 5,638 ft.; no Hllwy. sd.; drlg. sh. 6,870 ft.
Hunt Oil Co. No. 30 Hope, 100 ft. W, C NE SW Sec. 30-21-10. T. "D" sd. 8,545 ft.; S.S.O.; T. Bdw. sd. 8,639 ft.; oil; cg. sd. 8,668 ft.
Hunt Oil Co. No. 2 E. L. Stewart, Sec. 32-21n-10w. 13⅜-in. csg. 662 ft.
Magnolia Pet. Co. No. 1 Roseberry Unit, 20 ft. N and W. C SE Sec. 29-23-9. Drlg. sh.&sd. 8,383 ft.
Ohio Oil Co. No. 6 Bodcaw, Acct. 4, 660 ft. NE cor. NW Sec. 13-21-10. Holloway sd. 5,773-79 ft.; 9⅝-in. csg. 5,767 ft.; T.D. 5,855 ft.; flwd. 4 B.O.P.H. 5,773 ft.; tstd. dry; S.S.O. 5,773-79 ft.; abd.
Oliphant Oil Corp. No. 2-A Hodges, 660 ft. W, 460 ft. S, NE cor. Sec. 3-20-10. T. Tr. Pk. 5,987 ft.; no Hllwy. sd.; drlg. sdy. sh. 6,858 ft.
Stanolind O. & G. Co. No. 2 Pardee, Sec. 25-21-10. Set 9⅝-in. csg. 5,708 ft.; T.D. 6,000 ft.
Stanolind O. & G. Co. No. 3 Pardee, C SW SE Sec. 35-21-10. Set 13⅜-in. csg. 632 ft.; W.O.C.

SOUTH LOUISIANA FIELDS

Abbeville—Vermilion Parish

Continental Oil Co. No. 1 David Meaux, Sec. 9-12s-3e. Drlg. sh. 8,099 ft.
Continental Oil Co. No. 1 Franciol, Sec. 67-12s-3e. Drk.

Bancroft—Beauregard Parish

Republic Prod. Co. No. 9 Columbia Ld. & Tbr. Co., Sec. 15-6s-13w. Loc.
Republic Prod. Co. No. 7 Lutcher Moore, Sec. 14-6s-13w. T.D. 8,000 ft.; 5½-in. csg. 7,963 ft.; oil sd. 7,901-08 ft.; perf. csg. 7,898-7,900 ft.; tstd. S.W.; perf. csg. 7,896-98 ft.; tstd. oil and S.W.; perf. csg. 7,639-41 ft.; flwd. 19 bbl. 43.9-grav. oil first 2 hrs.; ¼-in. ck.
Republic Prod. Co. No. 8 Lutcher Moore Lbr. Co., Sec. 14-6s-13w. T.D. 7,328 ft.; 5½-in. csg. 7,315 ft.; I.P. 18 bbl. first 2 hrs.; ⅛-in. ck.; T.P. 1,425 lb.
Republic Prod. Co. No. 9 Lutcher Moore, Sec. 15-6s-13w. Loc.
Republic Prod. Co. No. 1 Nettie Smith Sec. 15-6s-13w. Drlg. sh. 1,472 ft.

Bateman Lake—St. Mary Parish

Texas Co. No. 2 State-Bateman Lake, Sec. 21-16s-12e. 13⅜-in. csg. 1,700 ft.; T.D. 9,453 ft.; sdtrkd. 6,880 ft.; drld. into old hole; P.B. 6,580 ft.; sdtrkd.; T.D. 9,156 ft.; P.B.; sdtrkd.; drlg. sh. &L. 10,485 ft.

Baton Rouge—East Baton Rouge Parish

Geo. Echols No. 1 J. Gebelin, Sec. 66-7s-1w. Drlg. sh. 6,410 ft.
M. T. Grubb et al No. 1 College Town Com., Sec. 67-7s-1w. Drlg. 2,630 ft.
Wm. Helis No. 3 A.L.S. 4, Sec. 67-7s-1w. R.U.
Wm. Helis No. 3-D Duplantier, Sec. 66-7s-1w. Top sd. 6,455 ft.; cg. sd. 6,466 ft.
Wm. Helis No. 1 Farris-Middleton, Sec. 66-7s-1w. Drlg. sh. 3,630 ft.
Wm. Helis No. 3 Nelson, Sec. 36-7s-1w. Drlg. 2,787 ft.
Lisbon-Iberia Oil Co. No. 3 Duplantier, Sec. 66-7s-1w. T.D. 6,367 ft.; fsg.
T. G. Markley-Crosby Drlg. Co. No. 2 Knox et al, Sec. 66-7s-1w. Drlg. 6,412 ft.
Texas Canadian Oil Co. No. 1 C. J. Bogan, Sec. 68-7s-1w. Drlg. sh. 5,437 ft.

Bay St. Elaine—Terrebonne Parish

Texas Co. No. 3-B State-Bay, Sec. 13-22s-17e. T.D. 10,513 ft.; tried to blow out; P.B. 6,904 ft.; set retainer 6,392 ft.; prep. to perf.
Texas Co. No. 19 State-Bay St. Elaine, Sec. 18-22s-18e. Loc.

Bayou Blue—Iberville Parish

Humble O. & R. Co. No. 11 Wilberts, Sec. 67-9s-11e. Loc.

Bayou des Allemands—St. Charles Parish

Amerada Pet. Corp. No. 4 St. Charles Ld. Co., Sec. 13-15s-2e. Loc.

De Large—Terrebonne Parish

Fohs Oil Co. No. 1 Buckley-Mahler, Sec. 25-19s-16e. 13⅜-in. csg. 3,380 ft.; 9⅝-in. csg. 10,058 ft.; T.D. 12,942 ft.; fsg.

Caillou Island—Terrebonne Parish

Texas Co. No. 29 State, Sec. 17-23s-20e. Rig.
Texas Co. No. 56 State, Sec. 20-23s-20e. Drlg. sh. 4,812 ft.

Cameron Meadows—Cameron

Burton-Sutton Oil Co. No. 26 Sch. Ld., Sec. 16-14s-13w. T.D. 2,465 ft.; 13⅜-in. csg. 2,465 ft.; T.D. 6,564 ft.; P.B.; sdtrkd.; T. salt 8,059 ft.; T.D. 8,065 ft.; P.B. to 2,845 ft.; sdtrkd.; T.D. 7,172 ft.; fsg.; set whpstk. 7,082 ft.; stk. D.S.; P.B.; sdtrkd.; T.D. 3,402 ft.; T.A.
Magnolia Pet. Co. No. 25 Cameron Meadows, Sec. 21-14s-13e. R.U.

Chacahoula—La Fourche Parish

Sun Oil Co. No. 1 Cypress, Sec. 75-15s-15e. Bldg. drk.
Sun Oil Co. No. 4 Delbert Stark and Brown Cypress Co., Sec. 70-15s-15e. T.D. 7,794 ft.; P.B. 6,764 ft.; sdtrkd.; T.D. 8,268 ft.; stk. D.S.; shot at 8,195 ft.; P.B. 7,642 ft.; sdtrkd. 7,642 ft.; T. D. 8,260 ft.; 9⅝-in. csg. 8,260 ft.; T.D. 8,292 ft.; cleaned hole; found csg. collapsed; recmtd. csg.; rmg. 7,176 ft.; found leak in csg.; recmtd.; P.B. 7,969 ft.; sdtrkd. 8,249 ft.; P.B. 2,200 ft.; sdtrkd.; drlg. sh. 6,410 ft.
Sun Oil Co. No. 2 Dodge Sunberry, Sec. 65-15s-15e. Driving piling.

Chalkley Field—Cameron Parish

Humble O. & R. Co. No. 4 Sweet Lake Ld. & O. Co., Sec. 7-12s-6w. Drlg. clay 675 ft.
Shell Oil Co., Inc., No. 2 Hanzen, Sec. 21-12s-6w. Drlg. sh. 9,272 ft.

Charenton—St. Mary Parish

Fifteen Oil Co. No. 1 T. Brulation, Sec. 19-13s-10e. 7-in. csg. 8,509 ft.; T.D. 10,710 ft.; abd.
Fifteen Oil Co. No. 2 State, Sec. 31-13s-10e. R.U.
Pan American Prod. Co. No. 1 Achee, Sec. 21-13s-9e. Loc.
Pan American Prod. Co. No. 14 Laws Realty Co., Sec. 30-13s-10e. T.D. 7,405 ft.; P.B. 6,950 ft.; sdtrkd.; T.D. 8,009 ft.; P.B. 7,170 ft.; perf. csg. 7,154-65 ft.; tstg.
Pan American Prod. Co. No. 7 Robichaux, Sec. 11-13s-9e. T.D. 1,051 ft.; 7-in. 1,035 ft.; I.P. 5 B.P.D.; pmpg.

Cheneyville—Rapides Parish

Gulf Oil Corp. No. 1 Bickerstaff, Sec. 4-18s-2e. Loc.
Gulf Oil Corp. No. 1 M. B. Pope, Sec. 4-1s-2e. Drlg. sh. 8,143 ft.
Gulf Oil Corp. No. 1 C. U. Pope, Sec. 4-18-2e. Loc.
Texas Canadian Oil Co. No. 2 Pope, Sec. 56-1s-2e. T.D. 5,845 ft.; P.B. 1,650 ft.; sdtrkd. 1,810 ft.; T.D. 5,805 ft.; abd.

Choctaw—Iberville Parish

Standard of La. No. 1 Wilbert, Sec. 53-9s-11e. Loc.

Convent—St. James Parish

Continental Oil Co. No. 2 Colonial Sugars, Inc., Sec. 50-12s-4e. 18⅝-in. csg. 220 ft.; drlg. sh. 7,035 ft.

Creole—Cameron Parish

Superior Oil Co. No. 7 State, Gulf of Mexico. T.D. 6,713 ft.; oil sd. topped 6,696 ft.; backed off D.S.; P.B. and sdtrkd. 1,278 ft.; drlg. clay 1,418 ft.

Darrow—Ascension Parish

Humble O. & R. Co. No. 22 Community, Sec. 32-10s-2e. Drlg. sh. 5,119 ft.
Kiva Oil Co. No. 1 Duplessis, Sec. 69-10s-2w. S.D. 2,523 ft.

Dog Lake—Terrebonne Parish

Texas Co. No. 5 Dog Lake, Sec. 5-22s-16e. T.D. 7,533 ft.; perf. csg. 6,770-6,805 ft.; tstg.
Texas Co. No. 23 State, Sec. 5-22s-16e. Drlg. sdy. sh. 4,610 ft.

Edgerly Field—Calcasieu Parish

J. G. Sutton Oil Co. No. 1 Reed, Sec. 29-9s-11w. Drlg. sh. 6,205 ft.

Eola—Avoyelles Parish

Amerada Pet. Corp. No. 1 Avoyelles Bnk. & Tr. Co., Sec. 5-2s-3e. Top Wilcox 8,522 ft.; T.D. 8,585 ft.; 5½-in. csg. on bttm.; perf. csg. 8,530-70 ft.; I.P. 238 bbl. in 14 hrs.; ¼-in. ck.
Amerada Pet. Corp. No. 1 Wm. Glaye, Sec. 6-2s-3e. Loc.
Amerada Pet. Corp. No. 1 Haas Inv. Co., Sec. 10-2s-2e. Drlg. sh. 8,164 ft.
Amerada Pet. Corp. No. 2 Mrs. C. B. Machine, Sec. 6-2s-3e. Loc.
Amerada Pet. Corp. No. 1 Merchants & Planters Bnk., Sec. 41-1s-3e. Loc.
Amerada Pet. Corp. No. 1 Robert Irion, Sur., Sec. 6-2s-3e. 9⅝-in. csg. 1,462 ft.; T.D. 8,684 ft.; 5½-in. csg. 8,601 ft.; T. Wlx. 8,337 ft.; perf. csg. 8,325-8,400 ft.; I.P. 746 B.P.D.; ¼-in. ck.
Amerada Pet. Corp. No. 1 Stokes, Sec. 41-1s-3e. Drlg. sh.&L. 7,265 ft.
Amerada Pet. Corp. No. 1 R. L. Whitlow, Sec. 6-2s-3e. Drlg. sh. 300 ft.
W. C. Feazel No. 1 Lelia Keller, Sec. 7-2s-1e. T.D. 8,560 ft.; 5½-in. csg. on bttm.
Gulf Expln. Co. No. 5 Samuel Haas Est., Sec. 8-2s-3e. T.D. 7,006 ft.; P.B. 6,450 ft.; crooked hole; sdtrkd.; T.D. 8,584 ft.; 5½-in. csg. 8,584 ft.; perf. csg. 8,560-80 ft.; flwd. S.W.; went dead; P.B. 8,581 ft.; pull tbg.
Geo. Lilly et al No. 1 Dent, Sec. 1-2s-2e. Loc.
Geo. E. Lilly et al No. 1 Haas Inv. Co., Sec. 1-2s-2e. 10¾-in. csg. 1,500 ft.; drlg. sh. 7,400 ft.
Pomo Prod. Co. No. 2 Sentell, Sec. 8-2s-3e. T.D. 8,573 ft.; 5½-in. csg. 8,572 ft.
Sid Richardson No. 1 Sam Hasse, Sec. 1-2s-2e. Drlg. sh. 6,935 ft.
Sid Richardson No. 3 State-Bayou Bouef, Sec. 6-2s-3e. R.U.
Sid Richardson No. 2 State Bayou Boenf, Sec. 7-2s-3e. T.D. 7,059 ft.; P.B.; sdtrkd.; drlg. sh.&L. 6,016 ft.

Fausse Point—Iberia Parish

Texas Co. No. 6 State, Twp. 11s-8e. Drk.

Garden Island—Plaquemines Parish

Texas Co. No. 35 State, Sec. 38-23s-33e. Drlg. sdy. sh. 4,505 ft.

Golden Meadows—La Fourche Parish

Wm. Helis-Danciger O. & R. Co. No. 1 Sch. Bd., Sec. 12-19s-22e. Cg. sd. and shells 2,062 ft.; D.S.T. 2,639-57 ft.; rec. 186 ft. oil, 10 ft. oil and wtr.; no report.
Geo. Lilly et al No. 1 Jack Collins, Sec. 12-19s-22e. T.D. 8,897 ft.; 7-in. csg. 6,102 ft.; oil sd. 5,150-73 ft.; tstg.
M. H. Marr and R. A. Bristol No. 1 Church property, Sec. 2-19s-22e. Drlg. sh. 7,312 ft.
M. H. Marr & G. H. Vaughn No. 1 Adam Terrebonne, Sec. 9-19s-22e. Drk.
M. H. Marr and G. H. Vaughn No. 1 B. & D. Unit, Sec. 12-19s-22e. 10¾-in. csg. 2,301 ft.; S.D. 9,050 ft.; wash to bttm.
Martex Pet. Corp. No. 2 Falgout Holding Co., Sec. 9-19s-22e. 10¾-in. csg. 2,401 ft.; drlg. sh. 4,412 ft.
St. Mary Oil Co. No. 1 Choust Unit, Sec. 12-19s-22e. S.D. 7,266 ft.
Taylor Fithian et al No. 1 Etienne Perrin, Sec. 12-19s-22e. R.U.
Terouche Oil Co. No. 1 D. B. Cheramie, Sec. 12-19s-22e. T.D. 6,239 ft.; 7-in. csg. 4,466 ft.; perf. csg. 4,406-22 ft.; tstg.
Texas Co. No. 2 Golden Meadows, Sec. 78-19s-21e. R.U.
Texas Co. No. 2 La Terre, Sec. 6-20s-22e. Drlg. sdy. sh. 6,812 ft.
Texas Co. No. 2 State-Catfish Lake, Sec. 3-20-21e. Drlg. sh.&L. 9,560 ft.
Texas Co. No. 3 State-Catfish Lake, Sec. 76-19s-21e. Loc.

Grand Bay—Plaquemines Parish

Gulf Oil Corp. No. 6-A Grand Prairie Lv. Dist., Sec. 17-20s-10e. Drlg. sh. 2,720 ft.
Gulf Oil Corp. No. 2 State, Sec. 6-20s-19e. 9⅝-in. csg. 9,431 ft.; T.D. 10,300 ft.; 7-in. csg. 10,299 ft.; perf. 9,275-90 ft.; flowed oil and S.W.; perf. csg. 8,980-90 ft.; tstd. dist.

Grand Lake—Cameron Parish

Amerada Pet. Corp. No. 1 Mallard Bay-State, Sec. 12-13s-4w. Driving piling.
Superior Oil Co. No. 2 State, Twp. 13s-4w. Drlg. sh. 7,800 ft.

Hackberry—Cameron Parish

Gulf Oil Corp. No. 25-A Erwin, Sec. 13-12s-10w. Drk.
Stanolind O. & G. Co. No. 28-A Gulf fee, Sec. 30-12s-10w. T.D. 7,037 ft.; P.B. 5,704 ft.; sdtrkd. 5,704 ft.; drlg. sh. 5,735 ft.
Superior Oil Co. No. 1 R. Vincent, Sec. 31-12s-10w. Drlg. sd.&sh. 7,476 ft.
Union Sulphur Co. No. 12 Doiron, Sec. 37-12s-10w. T.D. 8,064 ft.; P.B.; sdtrkd.; T.D. 7,570 ft.; fsg.
Union Sulphur Co. No. 1 Josephine O'Quinn, Sec. 37-12s-10w. T.D. 6,927 ft.; sdtrkd.; 7-in. csg. 8,014 ft.; T.S. 8,220 ft.; T.D. 9,665 ft.; P.B. 7,706 ft.; perf. csg. 7,696-7,704 ft.; tstd. mud and S.W.; perf. csg. 7,583-7,603 ft.; I.P. 288 B.P.D.; ¼-in. ck.

Horseshoe Bayou

Texas Co. No. 2 St. Mary Parish Ld. Co., Sec. 37-17s-9e. 7⅝-in. csg. 10,858 ft.; drld. out to 10,883 ft.; I.P. 360 B.P.D.; 10/64-in. ck.

Jefferson Island—Iberia Parish

Phillips Pet. Co. No. 1 Breaux, Sec. 41-12s-5e. T.D. 8,461 ft.; P.B.; sdtrkd.; drilled to T.D. 6,174 ft.; stuck D.S.; prep. to sdtrk. 6,000 ft.
Texas Co. No. 2 State-Lake Peigneur, Twp. 12s-5w. T. salt 7,419 ft.; T.D. 7,437 ft.; P.B. 6,292 ft.; P.B. and sidetracked; T.D. 7,964 ft.; salt; sdtrk. 6,322 ft.; drlg. sh.&L. 6,496 ft.

Jennings—Acadia Parish

Carter-Perrin et al No. 2 Arpent, Sec. 47-9s-2w. T.D. 1,798 ft.; 7-in. csg. 1,775 ft.; W.O.S.R.
Carter-Perrin & Brian No. 2 Valle, Sec.

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47-9s-2w. T.D. 1,793 ft.; run 7-in. csg.
Illes Pet. Co. No. 4 Synd., Sec. 41-9s-2w. 7-in. csg. 1,535 ft.; T.D. 1,740 ft.
Guaranty Oil Co. No. 3 Houissere Latrelle, Sec. 47-9s-2w. T.D. 1,715 ft.; 7-in. csg. 1,700 ft.; drk. blew down.
St. Mary Oil Co. No. 1 Gulf fee, Sec. 45-9s-2w. Drlg. sd.&sh. 1,180 ft.
Shell Oil Co., inc., No. 7 Conover, Sec. 40-9s-2w. T.D. 5,381 ft.
Stanolind O. & G. Co. No. 114 Crowley Oil & Mineral Co., Sec. 48-9s-2w. T.D. 3,755 ft.; P.B. 1,293 ft.; P.B. 1,900 ft., sdtrkd.; T.D. 4,581 ft.; 10¾-in. csg. 4,578 ft.; cg. sh. 7,189 ft.
Superior Oil Co. No. 4 Moresi, Sec. 41 9s-2w. T.D. 7,098 ft.; 5½-in. csg. 6,978 ft.; perf. csg. 6,852-6,964 ft.; tstg.

Lafitte—Jefferson Parish

Texas Co. No. 13 Lafitte, Sec. 17-17s-24e. Cg. 9,420 ft.
Texas Co. No. 14 Lafitte, Sec. 20-17s-24e. Loc.
Texas Co. No. 2-B Madison Realty Co., Sec. 19-17s-24e. Drlg. sh. 5,720 ft.

Lake Hermitage—Plaquemines Parish

Gulf Oil Corp. No. 10 La Fourche Basin Levee Dist., Sec. 2-18-25e. Drlg. sh. 5,630 ft.

Lake Long—La Fourche Parish

Fohs Oil Co. No. 9 State, 600 ft. S of No. 6 State in lake, Twp. 17s-19e. Cd. sd. &sh. showing oil 9,361-97 ft.; T.D. 9,427 ft.; run 7-in. csg.

Leeville—La Fourche Parish

Texas Co. No. 71 L.L.&E., Sec. 27-21s-22e. 10¾-in. csg. 1,141 ft.; drlg. sh. 6,712 ft.

Lake Mongoulois—St. Martin Parish

Texas Co. No. 7 State, Sec. 10-10s-9e. Cg. sh. 9,974 ft.

Lake Pelto—Terrebonne Parish

Texas Co. No. 26 State, Sec. 18-23s-18e. Cg. sh. 5,766 ft.

Lirette—Terrebonne Parish

Humble O. & R. Co. No. 1 W. E. Mont, Sec. 32-19s-19e. Loc.
Humble O. & R. Co. No. 3 Laterre Land Co., Sec. 32-19s-19e. Drlg. sh. 7,820 ft.

New Iberia—Iberia Parish

Canal Oil Co. No. 13 Bernard, Sec. 54-12s-7e. Drlg. sd.&sh. 3,474 ft.
Wm. Helis No. 6 Sabatier, Sec. 53-12s-2e. T.D. 2,451 ft., salt; P.B. 2,204 ft.; abd.
Wm. Helis No. 7 J. E. Schwing, Sec. 56 12s-7e. Drlg. sd.&L. 5,685 ft.
Texas Co. No. 2 Bryant, Sec. 25-12s-7e. R.U.
Texas Co. No. 1 Frances Compton, Sec. 71-12s-7e. Drlg. sdy. L. 7,942 ft.
Texas Co. No. 1 Anna B. Schwing, Sec. 71-12s-7e. Drlg. sh.&L. 7,955 ft.

North Crowley—Acadia Parish

Humble O. & R. Co. No. 2 Staker, Sec. 33-8s-1e. Drlg. sh. 7,170 ft.

North Tepetate—Acadia Parish

Atlantic Ref. Co. No. 5 Klumpp, Sec. 7-7s-1w. Drlg. sh. 8,900 ft.; run 7-in. csg.

Port Barre—St. Landry Parish

Pan American Prod. Co. No. 7 Cormier, Sec. 4-6s-5e. Drlg. sh. 1,125 ft.
Pan American Prod. Co. No. 8 Cormier, Sec. 4-6s-5e. R.U.
Pan American Prod. Co. No. 3 Haas & Hirsch, Sec. 4-6s-5e. T.D. 6,932 ft.; sdtrkd.; drlg. sh. 6,858 ft.
Smith & McDannald No. 1 S. W. Futral, Sec. 20-6s-5e. T.D. 4,841 ft., salt; P.B.; prep. to sdtrk.; T. salt 4,832 ft.; sidetracked; T.D. 4,160 ft.; stk. D.S.; sidetracked at 3,000 ft.; drld. to 4,160 ft.; stk. D.S.; P.B. 3,025 ft.; sdtrkd.; P.B. 1,800 ft.; sdtrkd.; T.D. 4,160 ft.; fsg.
Y. D. Spill No. 1 Gaudet, Sec. 4-6s-5e. S.D. 4,700 ft.

Potash—Plaquemines Parish

Humble O. & R. Co. No. 39 Orleans Lve. Bd., Sec. 13-8s-15e. 16-in. csg. 244 ft.; T.D. 4,548 ft.; stk. D.S.; repair rig.

Quarantine Bay—Plaquemines Parish

Gulf Oil Corp. No. 3-A Plaquemines Ld. Co., Sec. 7-19s-17e. Loc.
Gulf Oil Corp. No. 9 State QQ, Sec. 18-19s-17e. Loc.
Gulf Oil Corp. No. 5 State, Sec. 17-19s-17e. Loc.

Raceland—La Fourche Parish

Amerada Pet. Corp. No. 1 Godchaux Sugars, Inc., Sec. 34-15s-19e. 18⅝-in. 11,312 ft.; T.A.

Sorrento—Ascension Parish

Pan American Prod. Co. No. 16 United Ld. Co., Sec. 15-10s-4e. S.D. 1,472 ft.
Pan American Prod. Co. No. 17 United Ld. Co., Sec. 15-10s-4e. T.D. 905 ft.; 5½-in. csg. 889 ft.; tstg.
Sorrento Synd. No. 1 L. L. Bernard, Sec. 27-10s-4e. R.U.

South Houma—Terrebonne Parish

Shell Oil Co., Inc., No. 1 Duplantis, Sec. 74-18s-18e. T.D. 2,530 ft.; 10¾-in. csg. 2,521 ft.; drlg. sh. 4,897 ft.

South Roanoke—Jeff Davis Parish

Continental Oil Co. No. 1 Calcasieu Natl. Bnk., Sec. 36-10s-14w. 8⅝-in. csg. 9,867 ft.; T.D. 9,985 ft.; flwd. 262 bbl. dist. 21 hrs.; ¼-in. ck.; oil sd. 9,950-80 ft.

Starks—Calcasieu Parish

Skelly Oil Co. No. 1 Industrial Lbr. Co., Sec. 20-9s-12w. Drlg. sh.&L. 5,010 ft.

Valencia—La Fourche Parish

T. G. Markley and Mohawk Oil Corp. No. 1 Deusson Hrs., Sec. 100-17s-20e. T.D. 6,905 ft.; sdtrkd.; T.D. 6,825 ft.; 7-in. csg. 6,228 ft.; perf. csg. 6,145-51 ft.; tstd. dist.
Pan American Prod. Co. No. 20 Harang, Sec. 8-17s-20e. T.D. 4,608 ft.; sdtrk.; drlg. sh. 6,312 ft.

Venice—Plaquemines Parish

Tide Water Asso. Oil Co. No. 5 Buras Lv. Bd., Sec. 23-21s-30e. T.D. 8,616 ft.; cutting screen.
Tide Water Asso. Oil Co. No. 10 Manhattan Ld. & Fruit Co., Sec. 26-21s-30e. S.D. 290 ft.

Villa Platte—Evangeline Parish

Continental Oil Co. No. 1 Attales, Sec. 45-3s-2e. T.D. 9,110 ft.; prep. to P.B.
Continental Oil Co. No. 1 Bertha Fontenot, Sec. 47-3s-2e. Loc.
Continental Oil Co. No. 2 Fontenot, Sec. 46-3s-2e. T.D. 9,042 ft.; T.S. 8,977 ft.; I.P. 327 B.P.D.; ⅛-in. ck.
Continental Oil Co. No. 3 Haas, Sec. 44-3s-2e. Drlg. sd.&sh. 4,430 ft.
Continental Oil Co. No. 4 Hirsch, Sec. 44-3s-2e. Drlg. sh. 9,072 ft.
Continental Oil Co. No. 2 Opelousas, Sec. 44-3s-2e. Drlg. sh. 10,280 ft.
Continental Oil Co. No. 4 Opelousas St. Landry Security Co., Sec. 44-3s-2e. Loc.
Continental Oil Co. No. 3 Orise Deville, Sec. 46-3s-2e. T.D. 9,035 ft.; 6-in. csg.; full hole job 9,035 ft.; I.P. 291 B.P.D.; ⅛-in. ck.
Continental Oil Co. No. 3 Pitre, Sec. 44-3s-2e. Loc.
Continental Oil Co. No. 4 Vidrine, Sec. 46-3s-2e. Loc.

West Gueydan—Vermilion Parish

Magnolia Pet. Co. No. 2 J. B. Ferguson, Sec. 5-12s-2w. T.D. 7,172 ft.; 7-in. csg. 6,812 ft.; oil sd. 6,685-95 ft.

West Lake Verret—St. Mary Parish

Shell Oil Co., Inc., No. 3 Jeanerette Lbr. Co. 10¾-in. csg. 2,493 ft.; T.D. 10,004 ft.; cg. sh. 10,135 ft.
Shell Oil Co., Inc., No. 1 Michel, Sec. 1-14s-12e. Driving piling.

Woodlawn—Jeff Davis Parish

Union Sulphur Co. No. 5 Calcasieu Natl. Bnk., Sec. 12-9s-6w. Cg. sh. 9,801 ft.
Union Sulphur Co. No. 1 Raymond Hebert, Sec. 6-9s-5w. Drlg. sdy. sh. 7,506 ft.
Union Sulphur Co. No. 1 M. F. Johnson, Sec. 12-9s-6w. T.D. 9,500 ft.; fsg. for electrical survey.
Union Sulphur Co. No. 3 Mrs. O'Miller, Sec. 7-9s-5w. Drk.

S. LOUISIANA WILDCATS

Acadia Parish

Tri Parish Drillers, Inc., No. 1 Paul Stag, Sec. 4-7s-1w. M.I. rig.

Assumption Parish

Shell Oil Co. No. 1 Ellis, Sec. 66-16s-14e. Drlg. sh. 11,212 ft.

Avoyelles Parish

Adams O. & G. Co. et al No. 1 Poor Farm, Sec. 8-2n-4e. 9⅝-in. csg. 1,024 ft.; T. Sparta 4,681 ft.; T. Wlx. 5,606 ft.; drlg. sdy. sh. 6,430 ft.
C. B. Bunte No. 1 Hines Tie & Timber Co., Sec. 24-3n-2e. Drk.
G. C Koch et al No. 1 Purdy Hess Lbr. Co., Sec. 25-2n-3e. O.W.D.D.; T.D. 6,054 ft.; W.O. rig.

Beauregard Parish

Atlantic Ref. Co. No. 1 Lutcher Moore, Sec. 22-3s-11w. Loc.
Atlantic Ref. Co. No. 1 Rice Ld. & Lbr. Co., Sec. 22-3s-11w. Loc.
Atlantic Ref. Co. No. 1-A Rice Ld. & Lbr. Co., Sec. 22-3s-11w. T. Cook Mtn. 6,628 ft.; T.D. 8,518 ft.; 5½-in. csg. 8,518 ft.; P.B. 8,384 ft.; perf. csg. 8,282-97 ft.; tstd. 35 lb. pres.; rec. 51 stands S.W.; sqz. perf.; perf. csg. 7,720-40 ft.; tstd. S.W.; perf. csg. 7,585-7,600 ft.; tstd. S.W.; perf. csg. 7,587-98 ft.; rec. mud and wtr.; prep. to shoot with nitro 7,585-7,603 ft.
Standard Oil Co. of Calif. No. 1 Long Bell Lbr. Co., Sec. 23-4s-9w. T. Cckfld. 6,949 ft.; 9⅝-in. csg. 7,830 ft.; cd. top Wlx. sd. 9,630 ft.; T.D. 10,692 ft.; drlg. up survey instrument at 10,470 ft.

Calcasieu Parish

La.-Gulf Coast Drlg. Co. No. 1 Langdon, Sec. 13-10s-13w. Drk.
Humble O. & R. Co. No. 1 Edgewood Ld. & Logging Co., Sec. 32-7s-10w. T.D. 8,005 ft.; 5½-in. csg. 7,075 ft.

Iberia Parish

Texas Co. No. 3-B State-Vermilion Bay, Twp. 16s-5e. T. salt 5,970 ft.; B. salt 7,540 ft.; 9⅝-in. csg. 7,705 ft.; T.D. 10,241 ft.; 7-in. csg. 10,217 ft.; drld. out to 9,923 ft.; used hole for geophysics; drlg. out cmt. at 10,176 ft.

Iberville Parish

Housh & Thompson No. 1 Kessler & Folse, Sec. 40-11s-13e. T.D. 9,165 ft.; fsg.; sdtrkd.; drld. to 8,929 ft.; P.B. 8,775 ft.; W.O.C.
Humble O. & R. Co. No. 1-B A. Wilberts Lbr. & Shingle Co., Sec. 78-8s-8e. 20-in. csg. 165 ft.; drlg. 2,600 ft.

Jeff Davis Parish

R. M. Bleakie et al No. 1 Lack-Moore Co., Ltd., Sec. 29-7s-6w. 13⅜-in. csg. 65 ft.; 9⅝-in. csg. 1,123 ft.; T.D. 7,510 ft.; abd.
Stanolind O. & G. Co. No. 3-B Ervin & Bishop, Lot 15, Sec. 7-9s-5w. T. salt 6,315 ft.; T.D. salt 6,458 ft.
Union Sulphur Co. No. 2 H. B Tietje, Sec. 36-2s-4w. Drlg. sh. 1,520 ft.

La Fourche Parish

J. Perry Scranton No. 2 Martinez, Sec. 132-15s-17e. T.D. 9,003 ft.; 7-in. csg. 9,000 ft.
Texas Co. No. 1 L.L.&E. Golden Meadows, Sec. 77-19s-21e. 9⅝-in. csg. 10,744 ft.; T.D. 12,526 ft.; P.B. 11,810 ft.; made sqze. job; perf. csg. 10,769-71 ft.; tstd. S.W.; P.B. 10,269 ft.; stk. D.S.; drlg. on junk; perf. csg. 8,975-90 ft.; tstd. dry gas, 2,750 lb. W.P.; perf. csg. 7,300-20 ft., rec. drlg. mud; perf. csg. 4,400-30 ft.; tstd. dry gas; sqzd. perf.; perf. csg. 4,405-4,530 ft.; perf. csg. 4,400-50 ft.; tstd. dry; perf. csg. 2,675-80 ft.; set retainer; W.O.C.
Tide Water Asso. Oil Co. No. 1 Delta Farms, Inc., Sec. 6-17s-23e. Loc.

Livingston Parish

Fowler & Tower No. 1 Ellis Hood, Sec. 37-7s-3e. Drlg. sdy. L. 7,186 ft.

Orleans Parish

W. T. Burton No. 3-B Faubourg de Montluzin, Sec. 1-11s-13e. Drlg. sh. 8,406 ft.
W. T. Burton No. 1 L.&N.R.R., Sec. 18-11s-15e. T.D. 9,000 ft.; 7⅝-in. csg. 8,820 ft.; T.D. 10,138 ft.; well tried to blow out; set retainer; T.D. 10,040 ft.; P.B. 9,740 ft.; sdtrkd.; drlg. 10,212 ft.
W. T. Burton No. 3 L.&N.R.R., Sec. 25-11s-14e. Loc.
W. T. Burton No. 2 State-Lake Pontchartrain, Twp. 10s-10e. Loc.

Plaquemines Parish

Gulf Oil Corp. No. 8 State P.P., Sec. 18-23s-31e. Loc.
Texas Co. No. 1 State-Bastian Bay, Sec. 43-20s-28e. Loc.

St. Bernard Parish

Carter, Molero & Brian, Sec. 129-14s-14e. Drk.
Gulf Ref. Co. No. 4-State-R.R. (Lake Borgne), Twp. 12s-15e. 9⅝-in. csg. 8,161 ft.; T.D. 10,632 ft.; P.B. 9,700 ft.; rmd. to 9,658 ft.; lost core bbl.; P.B. sdtrkd. 8,912 ft.; T.D. 10,528 ft.; 7-in. csg. 10,494 ft.; fsg.

St. Martin Parish

Housh & Thompson No. 1 Emile Le Doux, Sec. 57-11s-6e. Drk.
Shell Oil Co., Inc., No. 1 Iberville Ld. Co., Sec. 86-8e-7s. Bldg. road.
Texas Co. No. 12 St. Martin, Sec. 21-8s-7e. Drlg. S.W. sd. 9,974 ft.

St. Mary Parish

Perry S. Cooney No. 1 A. W. Allain, Sec. 46-13s-9e. S.D. 2,600 ft.

St. Tammany Parish

Honey Island Dev. Corp. No. 1 W. C. Forbes, Sec. 33-7s-15e. T.D. 100 ft.; 20-in. csg. 87 ft.

Terrebonne Parish

Shell Oil Co., Inc., No. 1-A Peters, Sec. 47-19s-19e. Dredge canal.
Texas Co. No. 3 State-Coon Point, Twp. 23s-14e. Loc.

Vermilion Parish

La. Ld. & Expln. Co. No. 1 La. Fur. Co., Sec. 21-15s-1e. Drlg. sdy. sh. 10,740 ft.

Vernon Parish

W. T. Burton No. 1 W. T. Burton Mineral fee, Sec. 32-1n-6w. Drlg. sh. 7,919 ft.
Nat Hunter et al No. 1 W. T. Burton fee, Sec. 13-2n-5w. R.U.

West Feliciana Parish

McKay et al No. 1 James Montgomery. Drlg. sh. 1,940 ft.

TEXAS

Week Ending July 22

GULF COAST FIELDS

Old Ocean—Brazoria County

Harrison & Abercrombie No. 1 Grimes, C. Breen Sur. Drlg. sd.&L. 4,910 ft.
Harrison & Abercrombie No. 1 C. W. Markle, Polly & Chance Sur. 9⅝-in. csg. 7,016 ft.; T.D. 11,079 ft.; sdtrkd.; drlg. sh.&sd. 10,280 ft.
Mid-Continent Pet. Corp. No. 1 Wm. Chenault, C. Breen Sur. 9⅝-in. csg. 7,000 ft.; cg. 9,980 ft.
Sun Oil Co. No. 2 Borsodi, C. Breen Sur. Loc.
Sun Oil Co. No. 3 Campbell, C. Breen Sur. 13⅜-in. csg. 1,565 ft.; drlg. sh.& L. 5,200 ft.

Cedar Point—Chambers County

Standard of Texas et al No. 13-117 State. 10¾-in. csg. 1,600 ft.; drlg. sdy. L. 7,735 ft.

Seabreeze—Chambers County

Sun Oil Co. No. 2 Hoffman. T.&N.O. Sur. No. 131. T.D. 8,400 ft.; W.O.C.

Turtle Bay—Chambers County

Stanolind O. & G. Co. No. 1 State, Tr. No. 39. Loc.

West Columbia—Brazoria County

Texas Co. No. 33 Abrams, G. Tennille Sur. T.D. 4,198 ft.; 9⅝-in. csg. 4,191 ft.

Thompson—Fort Bend County

H. M. Naylor No. 1 M. W. Shanks, Horatio Chrisman Sur. Drlg. 7,020 ft.
H. M. Naylor No. 5 Musselman, H. Chrisman Sur. R.U.

Caplen—Galveston County

Sun Oil Co. No. 1 Zinn & Forman, S. F. Hughes Sur. Bldg. drk.

League City—Galveston County

Phillips Pet. Co. No. 5 Bertha Lobit Wilson, Perry & Austin Sur. 10¾-in. csg. 2,541 ft.; cg. 9,030 ft.
Phillips Pet. Co. No. 1 Dugan, S. F. Austin Sur. Drlg. sh. 5,830 ft.
Phillips Pet. Co. No. 1 Rice, Perry & Austin Sur. Cg. sh. 8,656 ft.
Phillips Pet. Co. No. 1 West Prod. Co., Perry & Austin Sur. Drlg. sh. 6,250 ft.
Phillips Pet. Co. No. 3 Lobit Wilson, Perry & Austin Sur. T.D. 9,310 ft.; 5½-in. csg. on bttm.
West Prod. Co. No. 1 fee, Lot 2, Blk. 5, Perry & Austin Sur. Loc.

Clear Lake—Harris County

Humble O. & R. Co. No. 10-C Humble-West, J. Lindsay Sur. T.S. 5,780 ft.; T.D. 5,844 ft.; tstg.
Humble O. & R. Co. No. 12-C Humble-West, Wm. Doble Sur. Drlg. sh. 5,601 ft.
Humble O. & R. Co. No. 14-C Humble-West, J. Lindsay Sur. Loc.
Stanolind O. & G. Co. No. 2 Sowden, J. Lindsay Sur. Cg. sh.&sd. 5,848 ft.

Clinton—Harris County

Stanolind O. & G. Co. No. 2 Edwards, Reels & Trobough Sur. Drk.
Stanolind O. & G. Co. No. 2 Oates, C. Martinez Sur. Loc.

Eureka—Harris County

Jack Frazier No. 1 W. T. Helberg, H. Reinerman Sur. R.U.
Houston Oil Co. No. 3 Helberg & Lackner, J. Reinerman Sur. Loc.
Tide Water Asso. Oil Co. No. 2-B Lackner, H. Reinerman Sur. T.D. 8,090 ft.; perf. csg. 8,040-50 ft.; sqzd. perf.; perf. csg. 7,934-44 ft. and 7,944-49 ft.; flowed 3 B.P.H.; S.I.

Fairbanks—Harris County

Kirby Pet. Co. et al No. 1 Hillebrenner, T. M. Dorsett Sur. 9⅝-in. csg. 1,300 ft.; T.D. 6,849 ft.; perf. csg. 6,843-46 ft.; flwg. gas; made sqze. job; reperf. csg.; jetting 90 B.P.D.; ⅛-in. ck.
Union Prod. Co. No. 1 C. H. Daniel, S. S. Reynolds Sur. 10¾-in. csg. 1,479 ft. perf. csg. 6,830-41 ft.; flwd. oil and S.W.; made sqze. job; W.O.C.

Friendswood—Harris County

Humble O. & R. Co. No. 14 Keisling, T. Choate Sur. Drlg. sh. 6,081 ft.
Humble O. & R. Co. No. 2 Keller, T. Choate Sur. Drlg. sh. 5,810 ft.

Humble—Harris County

Humble O. & R. Co. No. 1 Martha O'Connor, J. Dunman Sur. Drlg. sh. 5,510 ft.

South Houston—Harris County

Commerce Oil Co. No. 1 O. R. Stalti, Callahan & Vince Sur. 10¾-in. csg. 1,516 ft.; T.D. 7,554 ft.; well tried to blow out; stk. D.S.; fsg.

Clam Lake—Jefferson County

Shell Oil Co., Inc., No. 3 McFaddin, McFaddin Sur. T.D. 4,001 ft.; P.B. 2,048 ft.; made sqze. job 2,042-47 ft.; abd.

Fannett—Jefferson County

Gulf Oil Corp. No. 1 E. P. Bordages, J. Probarth Sur. Drlg. sh. 7,007 ft.

La Belle—Jefferson County

Sun Oil Co. No. 5 Broussard-Hebert, T. &N.O. Sur. No. 207. 18⅝-in. csg. 130 ft.; T.D. 7,650 ft.; cmtd. 9⅝-in. csg.; set plug 7,555-7,640 ft.; drld. cement to 7,700 ft.; sdtrkd.; drlg. sh.&L. 7,969 ft.

Lovells Lake—Jefferson County

Humble O. & R. Co. No. 5 Broussard, M. Grange Sur. T.D. 7,840 ft.; perf. csg. 7,790-7,800 ft.; tstg.
Humble O. & R. Co. No. 6 Broussard, M. Grange Sur. Loc.
Humble O. & R. Co. No. 5 Jefferson Ld. Co., C. Hillebrandt Sur. Cg. 7,706 ft.

North Cheek—Jefferson County

Magnolia Pet. Co. No. 6 Phelan, H.T.&B. Sur. No. 1. R.U.

South China—Jefferson County

Geo. Echols et al No. 2 Fontenot, H.T.& B. Sur. No. 17. 10¾-in. csg. 1,134 ft.; drlg. sh.&L. 7,204 ft.
Magnolia Pet. Co. No. 1 Broussard, H.& T.C. Sur., Sec. 18. R.U.

Esperson—Liberty County

General Crude Oil Co. No. 4-B Esperson, A. McNeil Sur. Drlg. sh. 1,964 ft.
General Crude Oil Co. No. 5-B Esperson, A. McNeil Sur. Drlg. sh.&sd. 1,860 ft.

Hardin—Liberty County

Gulf Oil Corp. No. 4 Cessna, H. B. Johnston Sur. R.U.

Hull—Liberty County

Gulf Oil Corp. No. 115 Phoenix Dev. Co., J. Devore Lge. (SE flank deep test). R.U.

Martha—Liberty County

Stanolind O. & G. Co. No. 1 C. F. Seaberg, I.&G.N. Sur. No. 7. Loc.

North Markham—Matagorda County

Ohio Oil Co. No. 2 Carlson, I.&G.N. Sur. No. 2. 10¾-in. csg. 1,472 ft.; T.D. 6,886 ft.; P.B. to strghtn. hole; drlg. L. 7,-568 ft.

Orange—Orange County

John Mayo No. 1 M. J. Williams, Dyson Sur. R.U.

Ace—Polk County

Dick Schwab No. 1-C Kirby-West Lbr. Co., G. A. Thomas Sur. Loc.
Shell Pet. Corp. No. 2 Doucett, P. A. Sublett Sur. Loc.

Segno—Polk County

Gulf Oil Corp. No. 4 Quinn, A. Morales Sur. R.U.
Gulf Oil Corp. No. 1 Ragan, I.&G.N. Sur. No. 15. Drlg. sh. 6,480 ft.
Gulf Oil Corp. No. 21 Wing, I.&G.N. Sur. No. 14. Drlg. sh. 6,212 ft.
Humble O. & R. Co. No. 13-B Kirby Lbr. Co., P. Garcia Sur. Bldg. rd.
Humble O. & R. Co. No. 14-B Kirby Lbr. Co., M. Victor Sur. T.D. 8,220 ft.; R.U. to pmp.
Humble O. & R. Co. No. 15-B Kirby Lbr. Co., P. Garcia Sur. Loc.

Orange—Port Neches

Texas Co. No. 15 Kuhn, A. E. Hall Sur. 10-in. csg. 1,794 ft.; T.D. 5,914 ft.; 7-in. csg. 5,841 ft.

Spurger—Tyler County

Republic Prod. Co. No. 22 fee, N. Hurd Lge. Drlg. sh. 8,486 ft.
Republic Prod. Co. No. 23 fee, A. Sterne Lge. Spd.
Republic Prod. Co. No. 23 fee, A. Sterne Lge. Loc.

GULF COAST WILDCATS

Brazoria County

Fabriguze et al No. 1 Freeport Sulphur, Stephen F. Austin Sur. (Byran Mound). M.I.M.
Hamman Expltn. Co. No. 1 Darrington, Achilles McFarland Sur. 10¾-in. csg. 1,200 ft.; 7-in. csg. 8,887 ft.; T.D. 8,917 ft.; P.B. 8,490 ft.; sdtrkd.; T.D. 9,102 ft.
Hamman Expltn. Co. No. 2 Darrington, State Prison Farm, F. Bingham Sur. W.O. rig.
Glenn McCarthy No. 1 J. C. Carr, J. D. Valderas Sur. R.U.
Glenn McCarthy No. 1 Houston Farm Dev., James F. Perry and E. Austin Sur. No. 7. Drlg. 9,895 ft.
Rowan Drlg. Co. No. 1 Vilren, J. S. Talmage Sur., Sec. 68. Drlg. sh. 5,894 ft.

Chambers County

Geo. Anderson No. 1 Julia Casey, W. D. Smith Sur. Loc.
Plymouth Oil Co. No. 1 Wilburn, Wm. H. Moore Sur. 10¾-in. csg. 1,994 ft. T.D. 7,416 ft.; stk. D.S.; sdtrkd.; drlg. sh. 7,421 ft.
J. R. Turnbull et al No. 1 W. C. Shepherd, R. A. Porter Sur. 10¾-in. csg. 1,150 ft.; drlg. sh. 5,600 ft.
Windsor Oil Co. et al No. 1 C. M. Frost, Sec. 97, H.&T.B. Sur. Loc.

Colorado County

Cockburn Oil Corp. No. 1 R. W. Ferrs, H. Chrisman Sur. Loc.

Fort Bend County

J. H. Blaffer No. 1 J. H. P. Davis, R. Peebles Sur., S flank Thompson field. Loc.
H. R. Cullen No. 1 Booth, Wickson Sur., S flank Big Creek. Loc.
Lloyd Farr et al No. 1 Beard, H.&T.C. Sur. No. 118. Drlg. sd. 558 ft.
C. B. McDaniel et al No. 1 Melanie Settegast, E. P. Whitehead Sur. R.U.
O. J. Martin et al No. 1 W. B. Blakely, J. Frederick Sur. S.D. 8,052 ft.; rmg. to bttm.
R. N. Ranger No. 1 Basset Blakeley, Thos. Habermacher Sur. Loc.
Superior Oil Co. No. 1 Shirle Beard et al, H.&T.C. Sur. No. 111. 10¾-in. csg. 1,230 ft.; T.D. 7,524 ft.; sdtrk.; drlg. sh. 5,567 ft.
Woodland Oil Co. No. 1 Herietta Berg et al, H.&T.C. Sur., Sec. 25. T.D. 7,-410 ft.; 9⅝-in. csg. 7,391 ft.; P.B. 7,-375 ft.; unable to sdtrk.; perf. csg. 7,-266-68 ft.; sqzd.; W.O.C.

Galveston County

Sun Oil Co. No. 1 State, East Galveston Bay. T.D. 6,047 ft.; run elec. survey.

Hardin County

Geo. Echols No. 1 Merchant Est., Stephen Jackson Lge. (E. flank Sour Lake field). T.D. 4,760 ft.; abd.
Norcoff Corp. No. 1 Caswell, B.B.B.&C Sur. No. 72 (E flank Saratoga dome). T.D. 4,900 ft.; sdtrkd.; drlg. sh. 3,-910 ft.

Harris County

Coastal Dev. Co. No. 1 J. J. Sweeney, J. C. Ogburn Sur. 10¾-in. csg. 820 ft.; drlg. sh. 5,621 ft.
Housh & Thompson et al No. 1 J. L. Krey, B. Herra Sur. 10¾-in. csg. 759 ft.; T.D. 7,828 ft.; abd.
M. I. and Joyce Richardson No. 1 J. J. Sweeney, John Ogburn Sur. Drk.
L. R. Wilhite et al No. 1 Houston-Harris Co. Ship Channel, Nav. dist., Ezekiel Thomas Sur. R.U.

Jackson County

Humble O. & R. Co. No. 1 M. H. Toney, R. Musquiz Sur. 9⅝-in. csg. 1,356 ft.
J. Mayo et al No. 1 J. H. Tucker, R. Musquiz Sur. 10¾-in. csg. 593 ft.; T. D. 5,829 ft.; P.B. 4,980 ft.; sdtrkd.; drlg. sh. 5,556 ft.
Moore & Ahern No. 1 J. M. Heard, Morris-Cummins Sur. Loc.
Moore & Ahern No. 1 Victoria Ld. & Loan Co., P. Scott Sur. T.D. 7,010 ft.; S.D.
Norcuff Oil Corp. No. 1 Hollingsworth, Ell Mercer gr. 10¾-in. csg. 466 ft.; S.D. 3,005 ft.; prep. to drill ahd.

Jasper County

Bob Milner et al No. 1 Cartwright, E. O. LeGrande Sur. 10¾-in. csg. 1,042 ft.; drlg. sh. 6,636 ft.

Jefferson County

I. E. Harwell No. 1 State, Gulf of Mexico. T.D. 5,840 ft.; D.S. stk.; pulled in two; S.D.
Humble O. & R. Co. No. 15-B McFaddin Beach State, Gulf of Mexico. 660 ft. NW of No. 13-B. Drlg. sh. 6,576 ft.

Orange County

American Eagle Oil Co. No. 2 Geo. Pell, Geo. A. Patillo Sur. Loc.

Polk County

Jack Frazier et al No. 2 Bergman, A. Viesca Sur. T.D. 7,566 ft.; abd.
Patrick-Tyrell Drlg. Co. No. 1 O. L. Jackson, C. Devore Sur. Loc.

San Jacinto County

F. J. Hynes No. 1 Foster Lbr. Co., M. Brown Sur. Loc.
F. J. Hynes No. 2 Foster Lbr. Co., M. Finch Sur. Loc.

Washington County

Mount Selman Oil Co. No. 1 Fritz Fuelberg, W. Lightfoot Sur. M.I.R.

Wharton County

Dr. T. M. Neal No. 1 fee, Elisha Flack Sur. Loc.

S. W. TEXAS WILDCATS

Atascosa County

Pulliam & Dixon No. 1 J. T. Henke, A.S. Donovan Sur. No. 145. S.D. 668 ft.; run 5½-in. csg. to test O.S. 648-56 ft.

Bastrop County

Joe Hughes et al No. 2 Lentz, Freeman Wilkinson Sur. No. 21. 7-in. csg. 2,260 ft.; swbd. acd. wtr. and oil; T.D. 2,-369 ft.; W.O.
Marts & Bearen No. 1 Woods, Dennis Dykes Sur. No. 36. R.U.

Bell County

M. M. Gordon No. 1 Steele, Oliver T. Tyler Sur. S.D. 1,201 ft.
G. P. Shelton et al No. 1 Nelson, Michael Griffin Sur. S.D. 1,208 ft.

Bexar County

E. D. Harris No. 1 Schroeder, Luke Bust Sur. No. 37. Drlg. 915 ft.
Joe A. Noake No. 1 Griffin, R. Kirby Sur. Spd. and S.D.

Blanco County

H. C. McCart No. 1 Geo. Lester, Newton Carson Sur. No. 34. S.D. 565 ft.

Brooks County

Magnolia Pet. Co. No. 2 Denman, Jose Marcelo Hinojosa gr. S.D. 6,850 ft.; may abd.

Caldwell County

Magnolia Pet. Co. No. 1 Morris, Moses Gage Sur. No. 26. 10-in. csg. 280 ft.

Duval County

Bunn Bros. No. 1-F W. R. Peters, J. Poitevent Sur. No. 161. Drlg. sh. 2,-620 ft.
W. L. Catlin et al No. 1 Louis Escapule, J. Poitevent Sur. No. 73. Loc.
Lee Corkill et al No. 1 Tonkin, Benavides Sur., Sec. 30. S.D. 5,900 ft.
Joe S. Dean et al No. 1 Hyatt, S.&M Sur., Sec. 535. Drlg. sh. 3,361 ft.
W. L. Goldston et al No. 1 J. F. Hyatt, S.&M. Sur. No. 535. Drk.
G. L. Rowsey et al No. 1 Parr, S.A.&M. G.R.R. Sur., Sec. 117. Drk.
Taylor Ref. Co. No. 1 Parr, S.A.&M.G. Sur. No. 117. Drk.
W. A. Wagner No. 1 D. J. Weikel, John H. Gibson Sur. No. 497. R.U. and S.D.

Edwards County

O. L. Alderfer and C. W. Davis No. 1 J. A. Earwood, C.C.S.D.&R.G.N.G.R.R. Sur. Sec. 158. S.D. 125 ft.
O. C. Reynolds No. 1 Paul Turney, C.C. S.D.&R.G.N.G. Sur. T. sdy. L. 410 ft.; T.D. 416 ft.; 6-in. csg. 375 ft.

Goliad County

Crown Central Pet. Co. et al No. 1 C. G. Wood, John Shern Sur. Drlg. sh. 1,810 ft.

Gonzales County

E. E. Young No. 1 Moore, D. O. Warren Sur. M.I.M.

Guadalupe County

C. L. Felty No. 1 Warneke, Vicente Duran Sur. No. 4. S.D. 765 ft.
John Hueners No. 1 Boecker, John Baker Sur. No. 26. T.D. 1,013 ft.; P.B. 763 ft.; comp. as wtr. well.
Tide Water Asso. Oil Co. No. 1 Jackson, J. O. Blair Sur. No. 422. Top chalk 2,460 ft.; cd. chalk 2,456-63 ft.; no shows; T. Edw. L. 2,764 ft.; cg. L. 2,-778 ft.; no show.

Hays County

B. C. Mann et al No. 1 Reeder, R. Vaughn Sur. Drlg. 767 ft.

Hidalgo County

San Juan Oil Co. No. 1 J. C. Kelly, J. C. Kelly subd., Antonio Velasco Sur., Porc. 70. Drk.
Shary Maddox No. 1 A. C. Neal, Santa Anita gr. Drlg. sh. 7,186 ft.
Pantano Pet. Co. No. 1 R. E. Harding, La Mestena Rnh. subd. (La Blanca field). T.D. 8,041 ft.; 7⅝-in. csg. on bttm.
Wheelock & Smith No. 1 Yturria Town & Imp. Co., Anastacio Villareal Por. No. 43. T.D. 4,069 ft.; perf. csg. 3,579-87 ft.; tstd. gas and S.W.; S.D.

Jim Hogg County

Imperial Oil Co. No. 1 Jose M. Gutierrez, H. Rodriquez Sur. No. 142. 10-in. csg. 40 ft.; drlg. sh. 3,629 ft.
Magnolia Pet. Co. No. 1 Ysaquirre et al, "Agua Nueva de Abajo." J. M. Ramirez Sur. 13⅜-in. csg. 2,083 ft.; drlg. sh. 3,626 ft.

Jim Wells County

Loring Bradstreet No. 1 Rehment, Lot 12, Morro Phillips Sur. Drk.
Gorman & Yoakam No. 1 J. A. Schmidt, Casa Blanca gr. T.D. 5,713 ft.; made elec. survey.
Magnolia Pet. Co. No. 1 J. O. Maun, Lot 6, Blk. 11. T.D. 6,803 ft.; 7-in. csg. 6,811 ft.; perf. csg. 6,806-10 ft.; tstd. 200 ft. P.L.O., 200 ft. brackish wtr.; sqzd. perf.; perf. csg. 6,806-11 ft.; rec. 1,200 ft. P.L.O., 155 ft. S.W.; run tbg.
W. R. Quinn et al No. 1 D. M. and Fritz Pundt, T. C. Wright Sur. S.D. 4,770 ft. 7-in. csg. 4,770 ft.; T.D. 5,415 ft.; P.B. 4,761 ft.; set 5-in. csg. 4,892 ft.; drld. out 4,810 ft.; flowing 24 bbl. waterwhite dist. P.D.; ¼-in. ck.; T.P. 1,800 lb.; C.P. 1,900 lb.; S.I.; killed; sqzd. perf. 4,794-98 ft.; W.O.C.
Smith & Storey No. 1 Shaeffer, Stanley Welch Sur. No. 90. T.D. 2,335 ft.; 5½-in. csg. 2,335 ft.; perf. csg. 2,194-2,204 ft.; tstd. S.W.; S.D.

Karnes County

Paul Meador No. 1 Ruhman, J. Richardson Sur. Drk.

Kendall County

C. M. Dewey No. 2 Seidensticker, R. Davis Sur. No. 20. S.D. 714 ft.

Kimble County

W. S. Kelly No. 1 A. L. Bierchwale, D. Lloyd Sur. S.D. 135 ft.
C. H. Wolff & M. C. Moore No. 1 W. J. Wilkinson, Brook & Burleson Sur., Sec. 24. R.U.

La Salle County

C. B. Johnson et al No. 1 Yeager, A.B. &M. Sur. No. 53. M.I.M.

Lavaca County

W. L. Goldston No. 1 Turk, Edwards Sur. Drlg. sh. 7,186 ft.

Lee County

Fred Pederson et al No. 1 Brown, David Hudson Sur. Pmpd. 100 B.F.; 36 hrs.; 3 bbl. oily emulsion; cd. L. 6,461-90 ft.; T.D. 6,571 ft.; S.D.

Live Oak County

Luling O. & G. Co. No. 1 R. F. Byler, J. Poitevent Sur. No. 95. R.U.
Salviejo Oil Co. No. 1 J. W. Hines et al, Sec. 98, Blk. 3953, J. W. Mackey Sur. No. 399. T.D. 3,507 ft.; abd.
Salviejo Oil Co. No. 1 Reser, Amos Moore Sur. R.U.
L. W. Stieren No. 3 Lange, Thos. Adams Sur. T.D. 1,497 ft.

McMullen County

Bruce Albright No. 1 H. T. Theim, J. Garner Sur. No. 6. Drlg. sh. 367 ft.
F. H. Gohlke No. 2 E. L. Miles, Wm. Kohfler Sur. No. 78. R.U.
C. D. Scarborough No. 1 First Natl. Bk. of Rosebud, James Garner Sur. S.D. 43 ft.
C. C. Shumway and C. H. Burns No. 5 Shiner, Wm. McGill Sur. Drlg. 1,156 ft.
C. C. Shumway et al No. 6 Shiner, Henry Brewer Sur. R.U.
C. C. Shumway No. 14 Shiner, S. N. Steinhardt Sur. No. 62. T.D. 1,120 ft.; abd.

Nueces County

Bay-Tex Oil Co. et al No. 1 Dallas Joint Stock Ld. Bnk., Palo Alto gr., Sec. 148. Drlg. sh. 6,370 ft.
Blanco-Buchanan No. 1-C Gandy, Geo. H. Pauls subd. T.D. 3,830 ft.; 7-in. csg. 3,830 ft.; perf. csg. 3,821-26 ft.; rec. 900 ft. drlg. mud and sd.
Joe W. Cosner No. 1 S. F. Lehman, Laureles Farm subd., Sec. 11. Loc.
E. A. Graham et al No. 1 Sam Taylor, D. M. Oliver Sur., Sec. 485. S.D. 6,024 ft.; abd.
John Manley et al No. 1 Ruegg, Geo. H. Pauls subd. of Driscoll ranch. Loc.
Mills Bennett Prod. Co. No. 1 Poenisch, E. Villareal Sur. T.D. 7,512 ft.
Phillips Pet. Co. No. 1 Gandy, Geo. H. Pauls subd. of Driscoll ranch. R.U.
Reed & Cox No. 1 Ruegg, Geo. H. Pauls subd. of Driscoll ranch. Drlg. sh. 5,-245 ft.
Shield Oil Co. No. 1 Magee, Blk. 10, Driscoll ranch, Geo. Paul subd. 10¾-in. csg. 650 ft.; cg. 5,582 ft.; rec. oil and mud; D.S.T. 5,556-82 ft.; drlg. sh. 6,770 ft.
Texas Conservative Oil Co. No. 1 J. E. Humble, Geo. H. Pauls subd., Driscoll ranch. T.D. 6,010 ft.; 5½-in. csg. 5,960 ft.; perf. csg. 5,658-63 ft., tstd. S.W.; perf. csg. 5,657-60 ft.; swbd. 98 per cent S.W., 2% oil; perf. csg. 5,927-29 ft.; rec. oil and S.W.; abd.
Texas Conservative Oil Co. No. 1 J. B. Rutland, Geo. H. Pauls subd. of Driscoll ranch. R.U.
Union Prod. Co. No. 1 W. H. Wallace, Sec. 88, Pauls subd. Loc.

Refugio County

Humble O. & R. Co. No. 4 Thompson, Cuadrilla Irrg. Sur. Drlg. sh. 2,620 ft.
L. & E. Oil Co. No. 1 J. G. Heinen, Aldrete gr. Loc.
Phillips Pet. Co. No. 1 Toland, Guadalupe Cobian & Family Sur. Drlg. sh. 6,520 ft.

Starr County

Banks, Miller Oil Co. No. 1 McLean, Unit 3, Valle Del Rico Rio Grande subd., J. B. Villareal Porc. 75. Drlg. sh. 2,770 ft.
Clopton & Mitchell No. 1 Tijerina, J. A. Falcon Porc. No. 80. T.D. 1,412 ft.; abd.
H. L. Curry No. 3 Tijerina, H.E.&W.T. R.R. Sur. No. 299. S.D. 678 ft.
C. L. Foster No. 1 H. Garza, Juan Salinas, Porc. No. 71. S.D. 100 ft.
Liberty Oil Co. No. 1 Bass, S.K.&K. Sur. No. 71. S.D. 150 ft.
Lynes & Robertson No. 1 Villareal, C.C. S.D.&R.G.N.G.R.R. Sur. No. 241. Loc.
Magnolia Pet. Co. No. 2 Guerra, Santa Cruz gr. Drlg. sh. 5,520 ft.

Travis County

Taylor Ref. Co. et al No. 1 Ballerstedt, A. C. Caldwell Sur. No. 52. Drlg. 928 ft.

Victoria County

Carter, Rubsamen et al No. 1 G. W. Vogt, Victoria Townsite Sur. 10¾-in. csg. 481 ft.; T.D. 3,538 ft. sd.
John Mayo No. 1 Voight, 2 mi. south of Victoria. Drlg. 4,750 ft.
Renwar Oil Corp. et al No. 1 Johnston, F. Perez Sur. Cg. 5,306 ft.

Webb County

J. M. Anderson et al No. 1 Frost, C.C.S. D.&R.G.N.G.R.R. Sur. No. 17. Loc.
Boysen & Jones No. 2 Watkins, San Casimiro gr. T.D. 1,406 ft.; 7-in. csg. 794 ft.
F. J. Hynes No. 2 Bruni, Thos. Burtrang Sur. No. 2184. Drlg. sd. 2,761 ft.
V. G. Schimmel No. 1 Benavides, B.S.& F. Sur. No. 693. T.D. 2,350 ft., oil sd.; 7-in. csg. 2,350 ft.; perf. csg. 2,339-47 ft.; I.P. 96 B.P.D.; pmpg.
Tide Water Asso. Oil Co. No. 7 Bruni, Blk. 7, M. Arispe gr. (deep test Bruni field). Spd.

Zapata County

Joe Martinez No. 2 Bruni, J. V. Borego gr. S.D. 355 ft.

WEST TEXAS WILDCATS

Andrews County

Richmond Drlg. Co. No. 1 University, Sec. 25, Blk. 12, Univ. Sur. D.&A. 5,-005 ft.

Brewster County

H. D. Wilcox No. 2 Kokernot, Sec. 23, Blk. C, J. V. Massey Sur. Drlg. 1,467 ft.

Crane County

Gulf Oil Corp. No. 5 M. B. McKnight, Sec. 1, Blk. 21-B, P.S.L. Sur. Drlg. plug 4,200 ft.

Crockett County

J. S. Pittman No. 1 Corbett-Humble, Sec. 15, Blk. 2-B, G.C.&S.F. Sur. Drlg. 890 ft.
Steel Dust Oil Co. No. 1 Geo. D. Atwood, Sec. 9, Blk. P.P., T.C.R.R. Sur. Drlg. 1,575 ft.

Crosby County

Gulf Oil Corp. No. 1-C Swenson, Sec. 95, Blk. 2, H.&G.N. Sur. Drlg. 5,915 ft.

Dickens County

Bond D. Jones No. 1 Ford et al, I.&G.N. Sur. S.D. 3,662 ft.
Humble O. & R. Co. No. 1 Matador Ld. & Cattle Co., Sec. 26, Blk. 1, Shock & Arnold Sur. T.D. 7,074 ft.; drlg. plug 6,925 ft.; P.B. 6,133 ft.; set retainer at 4,996 ft.; S.D.O. at P.B.T.D. of 4,996 ft. D.&A. 7,074 ft.

Ector County

Barnes-Conklin & White No. 1 T.&P. Lds., Sec. 28, Blk. 45, T.&P. Sur. S.D. 4,752 ft.

J. D. Bodkins No. 1 H. F. Foster, Sec. 12, Blk. 43, T.&P. Sur. Drk.
R. H. Gill No. 1 J. E. Parker, Sec. 12, Blk. 45, T.&P. Sur. W.O.R. 145 ft.
Sloan & Zook No. 1 J. L. Johnson, Sec. 34, Blk. 43, T.&P. Sur. C.O. 4,150 ft.

El Paso County

Tri-State Oil Co. No. 1 Kinkel, R.U.S.T.; to P.B. and sdtrk.; T.D. 3,571 ft.; fsg. 3,571 ft.

Gaines County

Stanolind O. & G. Co. No. 1 J. B. Rayner, Sec. 3, Blk. 30-C, P.S.L. Sur.; 6,000-ft. test. Drlg. 2,714 ft.

Glasscock County

J. R. Petty No. 1 Joe Blake, Sec. 163, Blk. 29, W.&N.W. Sur. S.D.O. 1,480 ft.
Shell Pet. Corp. No. 1 A. Neal, Sec. 38, Blk. 33, T.&P. Sur. D.&A. 3,683 ft.

Hudspeth County

Haymon Krupp Oil & Ld. Co. No. 1 Thaxton, SE¼ Sec. 34, Blk. 74, Twp. 6. S.G. 6,340-45 ft.; T.D. 6,402 ft.
Haymon Krupp No. 1 Briggs, Sec. 24, Blk. 73, Twp. 7, T.&P. Sur. Drlg. 5,728 ft.

Lynn County

John L. Baldridge No. 1 Alma Lbr. Co Sec. 151, H.E.&W.T. Sur. C.O. 3,680 ft.

McCulloch County

A. E. McMillan No. 1 Nat Randall, A. M. Waldrip Sur., Sec. 146. Spdg.

Pecos County

L. Cain No. 1 Masterson-Lehn, Sec. 71, Blk. 10, H.&G.N. Sur. C.O. after shot 1,722 ft.
Leidecker & Cain No. 1 M. M. Lehn, Sec. 71, Blk. 10, H.&G.N. Sur. Csg. 1,743 ft.; flwg. 20 B.O.; 24 hr.; tstg. 1,783 ft.
Lloyd-Penn & Hargraves No. 1 H. E Bonebrake, Sec. 110, Blk. 8, H.&G.N Sur. Drlg. 925 ft.
Magnolia Pet. Co. No. 2 Abell-Eaton, Sec. 23, Blk. 3, H.&T.C. Sur. T.D. 4,792 ft.; est. top Permian at 4,790 ft.
O. E. Schade No. 1 Otis Garrett, Sec. 59½, Blk. 8, H.&G.N. Sur. Tstg. est. 35 B.O.P.D.; T.D. 2,290 ft.; swbg. est 20 B.O.P.D.; 5 B.W.P.D.; testg. on pmp.; tstg. 10 B.O.P.D. and 10 B.W.P.D.
Superior Oil Co. No. 1 V. W. Crockett Sec. 7, Blk. 110, T.C.R.R. Sur. C.&P
Superior Oil Corp. No. 1 V. W. Crockett Sec. 5, Blk. 110, T.C.R.R. Comp. 20 B.O.P.D.; T.D. 1,447 ft.
S. Thompson No. 1 Elsinore Cattle Co., Sec. 54, Blk. D, G.C.&S.F. Sur. Rig burned; dropped bailer in hole; S.D.O. 7,342 ft.
J. C. Trees No. 1 fee, Sec. 63, Blk. 3, H.&G.N. Sur. Tstg. on pmp.; est. 5 B.O.P.D. and 5 B.W.P.D.; S.D.O. 2,359 ft.
C. W. Williams No. 1 J. Eaton, Sec. 1, Blk. 203, J. H. Handy Sur. W.O.C. 3,063 ft.

Presidio County

Marfa Oil Co. No. 1 Fischer ranch, Sec. 31, Blk. 8, G.H.&S.A. Sur. M.I.M.
H. D. Wilcox No. 2 Jones-Coffield, Sec 308, Blk. 4, H.&T.C. Sur. S.D.O. 1,840 ft.

Reeves County

Artie Baker No. 1 J. W. Grider, Sec. 31, Blk. 58, P.S.L. Sur. S.D.R. 450 ft.
Forest Development Corp. No. 1 I. E. Scott, Sec. 286, Blk. 13, H.&G.N. Sur. Drlg. 2,099 ft.

Scurry County

J. B. Stoddard No. 1 R. O. McClure, Sec. 142, Blk. 97, H.&T.C. Sur. Tstg. 2,489 ft.

Terrell County

Shirley, Lanham & Blakeney No. 1, Sec. 45, Blk. 2-B, C.C.S.D.&R.G.N.G. Sur.; 2,500-ft. test. S.D. csg. 268 ft.

Tom Green County

Dane Elder No. 1 DeLong, James Webb Sur. 83. Drlg. 220 ft.
Lynn & Cobb No. 1 I. B. Cox, Val. Mueller Sur. No. 176. S.D. 368 ft.
Dan Short et al No. 1 J. G. Davidson, NW part of Lovie P. Moore Sur. S.D. csg. 2,097 ft.
Southern Cross No. 1 Upton & Upton, Sec. 20, Blk. A, A.B.&M. Sur. Prep. core 5,154 ft.
Spinner No. 1 Reed, Mason Ferry Ranch Sur. S.D.O. 5,803 ft.; tools out of hole.

Ward County

Gulf Oil Corp. No. 5 Wristen, Sec. 18, Blk. 5, H.&T.C. Sur.; scheduled Ordovician test. Drlg. 2,343 ft.
Magnolia Pet. Co. No. 1-44 Sealy, Sec. 44, Blk. F, G.M.M.B.&A. Sur. R.U.S.T. 2,754 ft.

Yoakum County

W. A. Hudson No. 1 J. D. Webb, Sec. 545, Gibson Sur. Cmtd. whipstock 4,500 ft.; S.D.O. 5,502 ft.
Shell Pet. No. 1 Waples-Platter, Sec. 616, Tstg. 5,380 ft.; hole fills at rate of 100 ft. per hr.; making 1 bailer of wtr. per hr.; P.B. 5,312 ft.; pmpg. 145 B.O. P.D., 30 per cent S.W.; tstg. 5,305 ft.

TEXAS PANHANDLE

Armstrong County

Holmes, Newblock & Haley No. 1 Ed Moore, Sec. 319, Blk. 4-B, H.&G.N. Sur. Drlg. 1,450 ft.

Castro County

English et al No. 1 Gundlach, NW¼ Sec. 145, Blk. 6-M, S.K.&K. Sur. Loc.

Deaf Smith County

Uscan No. 1 Farwell, Sec. 18, Blk. 3, X. Sur. U.R. 5,626 ft.

Hartley County

Phillips Pet. Co. No. 1 W. K. Gordon, Sec. 3, Blk. 44, H.&T.C. Sur. Loc.

Lipscomb County

Phil O'Neil No. 1 J. Kock, NW SW Sec. 539, Blk. 43, T.&T.C. Sur. S.D. 480 ft.

Ochiltree County

James R. Macon et al No. 1 W. R. Norris, SW SE Sec. 212, Blk. 43, H.&T.C. Sur. Bailing rotary fluid preparatory to resuming drilling with cable tools.

Potter County

Les Whitaker No. 1 D. Pavillard, Sec. 101, Blk. 2, A.B.&M. Sur. C.&P.

Roberts County

E. J. Dunigan, Jr., No. 1 Ledrick, Sec. 34, Blk. C, G.&M. Sur. Drlg. 4,205 ft.

Wheeler County

Smith Bros. No. 1 Ribble, Sec. 46, Blk. 5-A, H.&G.N. Sur. Drlg. 2,750 ft.

E. C. TEXAS WILDCATS

Angelina County

Sewell-Murphy No. 1 Long Bell Lbr. Co., H.&B. Sur., 3 mi. E of Zavalla. Drlg. 580 ft.

Ellis County

Compton Oil Co. No. 1 M. L. Van Landingham, O. Wheeler Sur., 3 mi. E of Pluto. S.D. 1,135 ft.

Falls County

Jack Shaunfield No. 1 Bargonier, J. M. Graham Sur., SE of Chilton. Drlg. 1,100 ft.

Fannin County

H. W. English No. 1 T. W. Ayers, J. D. Seales Sur. S.D. 650 ft.

Henderson County

Scrivner et al No. 1 A.L.S. & F. Co., J.M. Saly Sur., 6 mi. SW of Athens. S.D. 3,260 ft.

Hopkins County

O. P. Vaughn No. 1 H. W. France, J. B. Hill Sur., 2 mi. N of Sulphur Bluff. Drlg. 3,885 ft.

Houston County

G. C. Dixon No. 1 W. Goodman, J. J. Thomas Sur., ¾ mi. E of Lovelady. Drlg. 3,340 ft.

Kaufman County

McGee No. 1 San Antonio Land & Cattle Co., E. Higdon Sur. D.&A. 3,336 ft.

Leon County

Humble O. & R. Co. No. 1 W. Johnson, W. Little Sur., outpost to Humble-Harris area. T.D. 5,904 ft.; made S.W.; set whpstk. 5,766 ft.; D.&A. 5,879 ft.

Limestone County

Albert Baggett No. 1 J. L. Thompson, P. Varela Sur. S.D. 15 ft.
Zephyr Oil Co. No. 2 Peeples, R. Scott Sur., 2 mi. SW of Tehucanna. Tstg. S.S.O. at 2,645-70 ft.

McLennan County

M. M. Russell No. 1 J. B. Lindsey, G. H. Robertson Sur., NW of Waco Lake. S.D. 40 ft.

Nacogdoches County

D. McDaniels No. 1 T. H. Seale, J. A. Cherino Sur., just outside of city limits of Cherino. U.R. 842 ft.

Navarro County

Topaz Oil Co. No. 1 E. Trammel, R. Mathews Sur., 4 mi. NE of Bazzett. Drlg. 2,300 ft.

Rusk County

Golden Rod Drlg. Co. No. 1 Hall Wood, J. I. Sanches Sur., 1½ mi. NW of Salem. C.O. 4,102 ft.
Hamm & Bogges No. 1 W. G. Ross, J. McCune Sur., 3 mi. NW of Mount Enterprise. D.&A. 3,836 ft.

Titus County

Superior Oil Co. No. 1 John Hargraves, S. B. Patton Sur., 8 mi. S of Mt. Pleasant. Drlg. 4,600 ft.

Van Zandt County

F. A. Richardson No. 1-A B. C. Dodd, T. W. Hutchinson Sur., 2 mi. S of Grand Saline. Swbd. dry; no show; D.&A. 4,963 ft.

NORTH TEXAS WILDCATS

Archer County

Deep Oil & Griffin No. 3 Waggoner, Sec. 1, H.&T.C. Sur., Blk. 4. L.S.O. 4,875-79 ft.; S.D.O. 4,901 ft.

Clay County

L. T. Burns No. 1 J. T. Pickett, W. W. Yearly A-745. 6⅝-in. 4,430 ft.; O.S. 4,430-44 ft.; W.O.C.
Frabar-Hodges and Mid-Union Drlg. Co. No. 1 Mrs. R. C. Kinder, Lot 11, Clark & Plumb Sur., Blk. 2. S.S.O. 5,273-80 ft.; T.D. 5,527 ft.; P.B. 4,320 ft.; to test S.S.O. 4,130-65 ft.
E. C. Norwood et al No. 1 H. C. Shipley, Sec. 29, Madison Co. Sch. Ld. A-302 Sur. Drlg. 2,995 ft.
Youngblood & Foree No. 1 Mrs. Ida Wynn, Sec. 2, T.&N.O. Sur. A-795. Drlg. 3,570 ft.

Cooke County

Target Drlg. Co. No. 1 Honeycutt, Sec. 4, Univ. Lge. No. 8. Drlg. 2,675 ft.

Hardeman County

Amerada Pet. Corp. No. 1 W. M. Rice, Sec. 81, W.&N.W. Sur. Drlg. 3,411 ft.
M. M. Cooke No. 1 Mrs. M. D. Norton, Sec. 3, E.L.R.R. Sur. Spud and S.D.

Montague County

E. B. Madden No. 1 Smith, H. N. Baker A-49. Sur. Drlg. 4,127 ft.
Sinclair Prairie Oil Co. No. 1 Whaley, Sec. 16, B.B.B.&C. A-86. Sur. Drlg. 5,562 ft.

Wilbarger County

Consolidated O. Co. No. 1 Wagoner CC, Sec. 36, H.&T.C. Sur., Blk. 6. Drlg. 4,020 ft.

WEST CENTRAL TEXAS DISTRICT

Brown County

A. J. Bartrug No. 1 J. Blokom, Sec. 23, B.B.B.&C. Sur. Drlg. 1,317 ft.
J. L. Derrich No. 1 C. V. Harris, Sec. 617, Prosper Mangle Sur. S.D. 100 ft.
Dan Hartzell No. 1 H. D. Browning, Blk 31, Chas. Messer Sur. No. 127. S.D. 815 ft. for new mch.
Lynn No. 1 Nesbitt Rice, M.E.P.&P Sur., Blk. 25. Prep. treat S.S.O. 1,120 ft.
Plains Prod. Co. No. 1 M. L. Graves, G. Armstrong Sur. No. 41. S.D.O. 1,365 ft.
Western Well Service Co. No. 1 T. M. Hays, C. B. Banister Sur. Drlg. 1,316 ft.

Callahan County

J. W. Dobbs Oil Corp. No. 2 Finley, Sec. 75, Bayland Orphans Home Lds. Skd. rig 50 ft.; S.D. 1,075 ft.
S. Herndon No. 1 W. L. Toland, Sec. 27, Blk. 5, S.P.R.R. Sur. D.&A. 1,190 ft.
T. Whittmer No. 1 I. N. Jackson, Sec. 15, E.T.R.R. Sur. D.&A. 1,206 ft.

Coleman County

Anzac Oil Corp. No. 5-C J. P. Morris, David Breeding Sur. Drlg. 750 ft.
Cooper Oil Co. No. 1 J. P. McCord, Sec. 519, San Augustine Sur. Drlg. 1,456 ft.

Concho County

L. G. Byerley No. 1 Mrs. G. Nayes, NW part of Sec. 1402, Abst. No. 98. Drlg. 655 ft.
Clymore Co., Inc., No. 1 Hill, J. Frederick Sur. D.&A. 2,565 ft.
National Resources No. 1 Armon, Sec 105, Blk. 72, T.&N.O. Sur. Drlg. 1,014 ft.

Eastland County

R. R. Groce No. 1 J. M. Rush, Sec. 130, Blk. 3, H.&T.C. Sur. Drlg. 805 ft.
J. L. Reeves No. 1 J. V. Parker, NW part of Wm. Van Norman Sur. Loc.
W. R. Ritchey No. 1 Weddington, Sec. 2054, T.E.&L. Sur. Drlg. 3,511 ft.
W. A. Stiles No. 1 J. Lyerla, SE part of Ussury Sur. No. 20. S.D.O. 1,455 ft.

Erath County

Wayne Chandler No. 1 Chandler, J. W. Moore Sur., Abst. 571. S.D.O. 4,794 ft.

Hamilton County

Wallace & Vickers No. 1 C. C. Lund, J. P. Bailey Sur. 51. C.O. 3,441 ft.

Haskell County

P. S. Kendrick No. 1 T. G. Hendrick, NW part of Sec. 1, A.B.&M. Sur. Loc.
E. W. Mariand No. 1 Cobb, Sec. 96, Blk. 1, H.&T.C. Sur. Drlg. 3,335 ft.

Hood County

D. S. Sowell No. 1 Burton, L. Campbell Sur. Drlg. 2,685 ft.

Jones County

Bradford & Robertson No. 1 S. A. Beaty, SE part of Section 21, Blk 4, H.&T.C. Sur. Prep. test S.S.O. 3,270-75 ft.
Fain-McGaha Oil Corp. No. 1 Ferguson, Sec. 36, Blk. 15, T.&P. Sur. Rng. csg. 1,895 ft.
Fain-McGaha Oil No. 1 J. H. Harris, Blk. 79, DeWitt C.S.L. Sur., 5 mi. W. of Akard pool. Drlg. 2,670 ft.
Gillespie et al No. 1 J. D. Samples, Sec. 45, Deaf and Dumb Asylum Lds. D.& A. 3,505 ft.
Jones & Stasney No. 1 Muehlstein, Sec. 28, D.&D.D. Lds. Loc.
Noark et al No. 1 D. Southard, Sec. 8, D.&D.A. Sur., 2 mi. NW of Griffin pool. D.&A. 3,375 ft.
Phillips Pet. Co. No. 1 J. R. Montgomery, Sec. 5, Blk. 16, T.&P. Sur. D.&A. 2,622 ft.
Quality Prod. No. 1 Radford, SE¼ Sec. 20, Blk. 16, T.&P. Sur. S.D. 1,800 ft.
S. B. Roberts Co. No. 1 C. Herndon, Sec. 6, M.E.P.&P. Sur., 2 mi. S of Anson D.&A. 2,602 ft.
Shaheen & Keeler No. 1 Radford, between Sayles and Akard pools. Drlg. 2,419 ft.
A. H. Tarver No. 1 A. S. Barkley, Sec. 54, Deaf and Dumb Asyl. Lds. U.R. 3,973 ft.

Mills County

D. Lane No. 1 J. W. Spinks, J. Douglas Sur. No. 5. S.D. 1,030 ft.; csg.

Nolan County

Green & Owens No. 1 Tipton, Sec. 43, Blk. 19, T.&P. Sur. Drlg. by csg. 3,650 ft.
Plymouth Oil Co. No. 1 F. M. McClure, Sec. 49, Blk. 23, T.&P. Sur., 8,000-ft. test. Drlg. wtr. well.

Palo Pinto County

Palo Pinto O. & G. Co. No. 1 A. P. Wilbar, Blk. 59, Burleson C.S.L. Drlg. 2,500 ft.

Parker County

Brown-Gardner Bros. No. 1 Gilbert, T.& P. Sur., Abst. 1958. S.D. 2,200 ft.

Shackelford County

C. R. Schuster No. 1 L. E. DeWitt, Blk. 56, Univ. Lds. Drlg. 600 ft.

Stephens County

Geo. E. Fagg No. 1 Richardson, Sec. 5, Blk. 31, S.P.R.R. Sur.; 4,000-ft. test. Rig.
Lone Star Gas Co. No. 1 O'Conner. Drlg. 3,555 ft.
A. G. Swanson No. 1 Veale-Frost, Sec. 37, Blk. 8, T.&P. Sur. Drlg. 1,186 ft.
Whittmer O. & G. Co. No. 1 Loving, Sec. 66, B.A.L. Sur.; Ellenburger test to 4,500 ft. Rng. csg. 3,492 ft.

Stonewall County

Shell Oil Co., Inc., No. 1 A. E. Smith, Sec. 143, Blk. 1, H.&T.C. Sur.; 6,000-ft. test. Loc.

EAST TEXAS

(Border Counties)

Marion County—Other

M. D. Fitzgerald No. 1 Carrie Moseley, 330 ft. SE cor. 100-ac. tr., Wm. H. Burton Sur. R.U.
M. D. Fitzwater No. 1 Mrs. Mary Duncan, Jesse Fitzgerald Sur. Drlg. sh. 2,196 ft.
J. D. Reynolds No. 2 Terry, Wiley Coor Sur. T. Tokio 2,270 ft.; T.D. 2,330 ft.; W.O.S.R.
J. D. Reynolds et al No. 2 Terry Est., W. Coore Sur. T. ch. 1,450 ft.; drlg. 2,173 ft.

Marion County—Rodessa

Arkansas Louisiana Gas Co. No. 1 B. Sims, 467 ft. SL, C E&W L, 38-ac. tr., C. Grayson Sur. Drlg. sd. 2,655 ft.
Magnolia Pet. Co. No. 1 Duncan Est., 216 ft. NL, 1,105 ft. EL lse., T. M. Davis Sur. Tstg. 6,002 ft.
Phillips Pet. Co. No. 3 N. B. Henderson, Gillespie Sur. Drlg. ch. rk. 2,014 ft.
Texas Co. No. 5 Braden, J. Fitzgerald Sur. Drlg. 197 ft.
Tippett Drlg. Co. No. 3 Howard, J. Hanks Sur. Drlg. sdy. L. 4,282 ft.

Taylor County

F. H. Brock No. 1 L. E. Tipton, Sec. 20, Blk. 18, T.&P. Sur. Sp. and S.D.

LEGAL

IN THE UNITED STATES DISTRICT COURT FOR THE WESTERN DISTRICT OF OKLAHOMA

PHIL TABER and C. B. COLEMAN, A CO-PARTNERSHIP, DOING BUSINESS AS TABER & COLEMAN, PLAINTIFFS, VS. PERU OIL AND GAS COMPANY, INC., a corporation, et al., DEFENDANTS. — NO. 2022-E

NOTICE OF RECEIVER'S SALE

By virtue of an order issued out of the United States District Court for the Western District of Oklahoma on the 13th day of May, 1939, in the above entitled cause, ordering and directing the undersigned Federal National Bank of Shawnee, Oklahoma, receiver, of the leasehold estate and equipment located thereon, partly owned by the Peru Oil and Gas Company, Inc., and partly owned by various defendants in the above entitled cause, to offer for sale and sell to the highest bidder for cash said leasehold estate, together with the personal property and equipment located thereon, the undersigned, as receiver, will on the 25th day of August, 1939, at the hour of 2.00 P. M. at the front door of the Court House in the Town of Shawnee, in Pottawatomie County, State of Oklahoma, sell to the highest bidder for cash the oil and gas lease covering the following described property, located in Pottawatomie County, State of Oklahoma, to-wit:

West Half (W½) of the Southeast Quarter (SE¼) of the Northeast Quarter (NE¼) of Section 13, Township 7 North, Range 4 East of the Indian Meridian,

subject to overriding royalties (the owner of the leasehold estate being entitled to 11/16th of all oil and gas produced), together with the oil and gas well located thereon, known as the Vinson No. 2 Well, and the personal property and equipment located thereon and used in connection with the operation of said well, all bids to be reported by the undersigned receiver to said court for approval or rejection thereof, said sale to be subject to the confirmation of said court.

Dated this 19th dav of Julv. 1939.

FEDERAL NATIONAL BANK OF SHAWNEE, OKLA.
By R. E. LEAVITT, Trust Officer, Receiver.

Market Record of Active Oil Stocks

Compiled by Carl H. Pforzheimer & Co., 25 Broad Street, New York City, Member New York Stock Exchange and New York Curb Exchange

New York Stock Exchange

1939 High	1939 Low	Week ending July 22 High	Week ending July 22 Low	Week ending July 22 Close	Stocks—	Total shares outstanding	Par value	Latest dividend	Payable or last paid	Dividends paid in 1938	Com. sh. earn. 1938	Com. sh. earn. 1937	1938 High	1938 Low	1937 High	1937 Low
70	50	65⅜	64⅛	64⅛	Amerada Corp.	788,675	N.P.	50cQ	7-1-39	$2.00	$2.07	$3.04	78	55	111⅞	51½
23½	18½	20¾	20	20¼	Atlantic Refining	2,663,999	$25	25cQ	6-15-39	1.00	1.40	3.51	27⅜	17¾	37	18
21½	10⅞	14½	13	14¼	Barber Asphalt Co.	390,223	$10	75c	12-16-37	....	—.85	1.91	23¾	12½	43⅜	10⅛
19½	12⅜	14⅝	13½	14⅛	Barnsdall Oil Co.	2,250,344	$5	25cQ	8-1-39	1.00	1.26	.85	21⅝	10⅛	35¼	10
9¼	7	7⅜	7½	7⅝	Consolidated Oil Corp.	13,751,846	N.P.	20cQ	8-15-39	.80	.55	1.48	10⅜	7	17⅞	7
31½	20½	22⅜	21⅜	22¾	Continental Oil of Delaware	4,682,581	$5	25cQ	9-28-39	‖1.00	1.10	2.98	35⅜	21¼	49	24
8⅜	4¾	6½	5⅝	6¼	Houston Oil (new)	1,098,618	$25	....	10-17-30	....	.83	.94	9⅜	5	17⅝	4⅜
20¼	12⅜	13½	12¾	13	Lion Oil Refining	435,815	N.P.	25cQ	4-20-39	1.00	2.09	2.17	25¼	15⅝	34	12½
16½	11⅛	13⅝	12½	13⅝	Mid-Continent Petroleum	1,857,912	$10	25c	6-1-39	.60	.56	2.86	22⅝	12¼	35⅝	14
14⅜	10⅜	11	11	11	Mission Corporation	1,379,245	$10	25c	6-29-39	1.00	1.04	1.31	17⅜	10⅝	34	15
15½	6½	9⅛	8	9	National Supply	1,155,517	$10	$2 pf.‡	12-22-37	....	—.79	4.90	28	12½	41⅜	17⅝
10¼	6⅝	7⅛	6⅝	7⅛	Ohio Oil Co.	6,563,377	N.P.	20c	12-15-38	.20	.25	1.30	14⅞	8⅜	22⅞	8
11⅞	8⅞	9¼	8⅞	9	Pacific Western Oil	1,000,000	N.P.	50c	12-20-38	.50	1.22	1.39	15⅞	10¼	29⅜	11⅜
6⅜	5	..	..	..	Pan American Pet. & Trans.	4,702,945	$5	$1*	12-21-37	....	.08	1.18	9¼	6¼	17⅛	7
43⅜	31¼	37	36	36⅝	Phillips Petroleum	4,449,052	N.P.	50cQ	6-1-39	‖2.00	2.03	5.42	44⅜	27¼	64	30⅛
22½	17¼	20⅜	19½	19⅞	Plymouth Oil Co.	1,006,200	$5	35cQ**	6-30-39	1.40	2.59	2.85	25⅝	15	29⅞	13
11¼	6⅝	7½	6⅞	7⅜	Pure Oil Co.	3,982,031	N.P.	25c	12-1-37	....	.38	2.15	13½	8¼	24⅜	8⅜
10¼	6⅝	8⅛	7½	7⅞	Richfield Oil Corp.	4,010,000	N.P.	50c	12-21-38	.50	.51	.35	9⅜	5	6½	4⅛
22⅜	16⅛	19	18¼	18¼	Seaboard Oil of Delaware	1,244,383	N.P.	25cQ	6-15-39	1.00	1.52	1.97	27½	15½	54⅛	16
15⅛	10⅛	11⅜	10⅞	11½	Shell Union Oil	13,070,625	N.P.	25c	7-20-39	.70	.72	1.44	18⅜	10	34⅜	14⅞
29½	18½	21	19¼	19⅝	Skelly Oil	995,349	$15	50c	12-15-38	1.00	2.27	6.07	34⅜	18½	60⅝	26⅛
13⅜	10½	12	11⅝	12	Socony-Vacuum	31,206,071	$15	25cSA	3-15-39	.50	1.29	1.82	16⅜	10⅜	23¼	13
30⅛	25⅛	27⅜	26	26⅝	Standard Oil of California	13,004,153	N.P.	30cQ†	6-15-39	1.40	2.22	3.17	34⅞	25⅛	50	27⅛
29⅛	23¼	25⅝	24⅝	25⅛	Standard Oil (Indiana)	15,272,020	$25	25cQ	6-15-39	1.00	1.82	3.66	35½	24⅜	50	26½
50⅝	46	..	..	..	Standard Oil of Kansas	106,190	$10	$2	12-8-38	2.00	5.25	6.93	50⅛	32½	43	30⅝
53¼	40⅛	45	41⅞	43⅝	Standard Oil of New Jersey	26,618,065	$25	50c§	12-15-38	‖1.50	2.86	5.64	58⅜	39⅜	76	42
66	46	51½	50¼	50¼	Sun Oil	2,316,484	N.P.	25cQ	6-15-39	1.00	1.07	3.86	65½	45	77½	44½
3¼	2	2⅛	2	2⅛	Superior Oil Corp.	1,388,979	$1	10c	12-28-38	.10	.24	.32	4¼	1¾	7⅜	1½
48¼	34⅞	39	36⅛	37⅛	Texas Corp.	10,876,882	$25	50cQ	7-1-39	2.00	2.13	5.02	49⅝	32⅝	65⅛	34⅜
5⅝	3½	4¼	4	4⅛	Texas Gulf Producing Co.	888,143	N.P.	10c	6-15-39	.15	.86	.68	5⅞	2⅝	9⅜	2
10⅛	7½	8	7⅝	8	Texas Pacific Coal & Oil	888,236	$10	10c	6-1-39	.40	1.16	1.11	12½	7	16⅜	5⅜
14¼	11¾	12¼	12	12⅛	Tide Water Associated	6,375,253	$10	25c	6-1-39	1.00	1.28	2.08	15⅜	10⅛	21⅜	13⅛
19⅜	16⅛	17	16¼	16⅜	Union Oil of California	4,666,270	$25	25c	8-10-39	1.20	1.47	2.58	22½	17⅛	28¼	17½
23⅝	20⅛	21¼	20½	21	Union Tank Car Co.	1,177,381	N.P.	30cQ	3-1-39	1.30	1.16	1.70	23½	20	31½	22
3¾	2½	2¾	2⅝	2¾	Wilcox Oil & Gas	487,568	$5	....	5-10-28	....	.52	.24	3½	1⅝	6¼	1⅜

*Payable in 3⅛ per cent notes. †Includes extras. ‡One-tenth share $2 preferred stock. ‖Also 1½ per cent stock dividend. §Also right to subscribe to bonds. ¶Also 1 per cent in stock. **Also 2 per cent in stock. —Deficit.

New York Curb Exchange

1939 High	1939 Low	Week ending July 22 High	Week ending July 22 Low	Week ending July 22 Close	Stocks—	Total shares outstanding	Par value	Latest dividend	Payable or last paid	Dividends paid in 1938	Com. sh. earn. 1938	Com. sh. earn. 1937	1938 High	1938 Low	1937 High	1937 Low
9	5½	6⅝	6	6⅜	American Republics Corp.	1,308,049	$10	10c	7-11-38	$0.10	—$0.22	$0.27	11⅝	5	10	6⅝
7¼	3½	4	3⅜	4	Bridgeport Machine Co.	270,000	N.P.	$1.25	12-30-37	....	—.14	1.90	10¼	4⅞	21⅝	7
34⅜	27¼	32¼	28	28	Buckeye Pipe Line Co.	200,000	$50	50c	9-15-39	2.00	2.36	4.02	29	22½	51½	36
130	110	..	..	..	Chesebrough Mfg. Co.	120,000	$25	$1.50Q†	6-26-39	6.50	5.32	6.73	128	97	112	95⅛
9¼	5½	6⅛	5½	5⅞	Cities Service (new)	3,704,067	$10	....	6-1-32	....	.23	1.02	11	5⅛	5⅝	1⅛
1½	⅛	1⅝	1⅜	1½	Cosden Petroleum	462,551	$1	....	....	....	....	.19	2⅜	⅞	5⅛	1⅜
23⅜	16¾	20¼	18¾	20¼	Creole Petroleum	6,975,383	$5	50cSA†	6-15-39	1.00	1.64	1.61	27½	17⅛	38⅜	20¼
7⅛	3⅝	4⅜	4¼	4⅛	Darby Petroleum	351,390	$5	25cSA	1-15-39	.50	....	1.3[6]	10¼	5½	18⅝	6⅛
2⅜	1⅝	..	..	..	Derby Oil & Refining	263,162	N.P.	....	....	....	—.91	1.34	3½	1½	8⅜	2⅛
20	15⅛	17	15½	17	Eureka Pipe Line	50,000	$50	50c	8-1-39	3.00	—.37	—.12	31	16	47½	24½
40	29¼	33½	32	32⅞	Gulf Oil Corp.	9,076,202	$25	25cQ	7-1-39	1.00	1.43	3.51	46⅜	33	63⅛	33
69⅜	53	60	57¾	60	Humble Oil & Refining	8,987,840	N.P.	37½c	7-2-39	3.00	3.98	5.22	72⅝	56	87	54⅝
17	14	15⅛	15	15⅛	Imperial Oil of Canada	26,965,078	N.P.	62½cSA†‡	6-1-39	1.25	.96	.98	19½	14⅛	24¼	14⅛
7	5⅝	..	..	..	Indiana Pipe Line	300,000	$10	30c	5-15-39	.50	.47	1.03	9⅜	6	15	5⅜
27½	20¼	22⅜	22⅛	22⅝	International Petroleum	14,324,088	N.P.	1.00†‡	6-1-39	2.50	1.98	....	31¾	21	39½	23½
3½	2¼	2⅜	2¼	2¼	Kirby Petroleum Co.	500,000	$1	10c	4-15-38	.10	.14	.17	5	2⅛	8⅜	2⅝
9½	7⅛	9¼	9	5	Lone Star Gas	5,553,747	N.P.	20c	4-20-39	.60	.88	1.14	10⅜	6⅝	14¼	5¼
7⅜	4⅞	5¼	4⅜	5	Louisiana Land & Exp.	2,977,449	N.P.	10cQ	3-15-39	.45	.45	.58	9⅜	6½	15¼	6⅜
17	14⅜	14⅝	14⅜	14⅜	Margay Oil Corp.	149,943	N.P.	25cQ	4-10-39	1.00	2.28	3.26	24	16	33½	17
8⅜	7	7⅜	7⅛	7½	Midwest Oil Co.	998,474	$10	50c	12-15-38	1.00	.93	1.14	9⅜	6⅝	14⅝	6¼
5½	4⅞	5¼	4⅞	5¼	Mountain Producers	1,593,584	$10	30cSA	6-15-39	.60	.62	.76	5⅝	4½	7⅞	4½
13¼	11¼	12⅜	11⅜	12¼	National Fuel Gas	3,810,183	N.P.	25cQ	4-15-39	1.00	.84	.96	14⅝	11½	19½	12
8½	7¼	8½	8⅜	8½	National Transit	509,000	$12.50	35c	6-15-39	.75	.88	1.19	9¼	6½	12½	7¼
1⅜	1½	1½	1½	1½	New Mexico and Arizona	1,000,000	$1	1c	12-1-37	....	.02	.02	2⅜	1½	5	1¼
4⅞	4	..	..	..	New York Transit	100,000	$5	15c	4-15-39	.25	.16	.49	4½	3½	5⅜	3⅜
6	4½	..	..	..	Northern Pipe Line	120,000	$10	15c	6-1-39	.35	.24	.78	6	4	12⅜	5⅜
7⅜	4¼	5⅜	5⅜	5⅜	Pantepec Oil	2,857,000	$1	....	.....	....	....	....	7⅜	3½	9⅜	2⅜
2⅜	1¼	2	2	2	Root Petroleum Co.	336,045	$1	25c	2-1-37	....	.17	—.17	4½	1⅝	12⅜	2
3	2	2¼	2⅛	2⅛	Ryan Consolidated	298,931	N.P.	....	.....	....	.29	.46	4	2⅛	6½	2¼
4	3½	..	..	..	Southern Pipe Line	100,000	$10	15cSA	3-1-39	.30	—.27	.85	5⅜	3¼	7¼	3⅜
34⅞	27⅜	31	30¼	30½	South Penn Oil	1,000,000	$25	37½cQ	3-31-39	1.75	1.44	4.64	39	28⅜	56	35
19⅜	18	19	18½	18	Southwest Penna. Pipe Lines	35,000	$50	50cQ	7-1-39	2.00	—.41	.95	22¼	16½	42	20
18⅜	17¼	18¼	18	18¼	Standard Oil of Kentucky	2,604,790	$10	25c	6-15-39	1.25	1.45	1.60	18⅜	15	21⅛	14⅜
11¼	6	11¼	9⅜	11¼	Standard Oil of Nebraska	161,403	$25	25c	3-29-37	....	—.69	—.58	8⅜	5½	13⅜	8
21¼	17	22⅜	21¼	22¼	Standard Oil of Ohio	753,740	$25	25c	3-15-39	1.00	1.81	3.67	22⅜	16¼	45	16
2⅝	1⅜	2⅝	2	2⅝	Sunray Oil	2,007,076	$1	5c	4-27-39	.05	.23	.42	3¼	2	4⅞	2
4	2⅝	3	3	3	Texon Oil & Land	936,024	$2	10c	6-30-39	.60	.56	.51	5¼	3½	7⅜	2
5½	2½	3⅞	3½	3⅝	Transwestern Oil Co.	750,000	$10	....	.....	....	—.12	.48	7⅝	4¼	18⅞	4⅝
3⅜	1⅝	2	1⅝	2	United Gas Corp.	7,818,959	$1	....	.....	....	—.51	25	5¼	2⅝	13⅞	3

†Includes extras. ‡Payable in Canadian funds. ‖Of which $1 was in preferred stock. —Deficit.

Personal Paragraphs

CAPT. T. REIBER, chairman of Texas Co., was among oil men on the inaugural paid-passenger flight of the Pan American Airways' Dixie Clipper, flying from New York to Marseille. AMON G. CARTER, Fort Worth, Tex., publisher and independent oil producer, was another.

EUGENE HOUDRY, French engineer and inventor of a cracking process that bears his name, was in Beaumont, Tex., this week inspecting the newest and largest unit built according to his designs. Mr. Houdry also visited a smaller installation which had just completed a 135-day continuous run. Both units are in the Magnolia Petroleum Co. plant at Beaumont and together will handle 30,000 bbl. a day of raw charge.

H. C. SKIDMORE, independent oil operator of Shreveport, La., is spending a vacation in New York.

DAVID B. MacDANIEL, independent operator of Houston, Tex., is on a business and pleasure trip to New York.

HUGO KAMB, geologist for Arkansas Fuel Oil Co., Shreveport, La., has returned from a vacation spent with his family in Minnesota.

T. W. RHODES, chief petroleum engineer of the Gulf Oil Corp. Fort Worth, Tex., offices, is taking a motor trip up the Atlantic seacoast and in Canada.

A. P. ROWLAND has been appointed superintendent of the Waco division of Community Natural Gas Co.-Texas Cities Gas Co. He joined the Lone Star system in 1924 and soon became construction superintendent.

HOMER EASTERWOOD, N. A. TEDFORD and FRED M. WOOD have organized the Commercial Drilling Co. and Easter-Wood Production Co. to carry on drilling and producing operations in the Corpus Christi area in Texas.

DR. CHARLES M. KNEIER, who aided in preparation of a report on the oil industry in Illinois and who has represented that state in the Interstate Oil Compact Commission, has resigned as research director of the Legislative Council of Illinois to resume his former post as professor of political science in the University of Illinois.

R. C. GEIGER, assistant manager; J. C. GIBSON, chief engineer; E. PEREZ, chief counsel, and R. I. DODSON, representative, of Tropical Oil Co., sailed from New York for Colombia last Friday.

ARTHUR F. CORWIN, vice president and director of Socony-Vacuum Oil Co., Inc., was honored in New York last week by fellow officers and directors upon completion of 40 years of service. Mr. Corwin began his career in 1899 with South Penn Oil Co., then a subsidiary of Standard Oil Co. of New Jersey. After the dissolution decree in 1911 he remained with Standard of New Jersey in its crude oil production department until 1926, when he joined Standard Oil Co. of New York which later consolidated with Vacuum Oil Co. into Socony-Vacuum.

P. S. MAGRUDER, of General Petroleum Corp.; L. V. CASSADAY, of Lomita Gasoline Corp., and GEORGE L. TYLER were installed recently as president, vice president and secretary-treasurer, respectively, of the California Natural Gasoline Association.

JOHN R. OWER, for the past 2 years with the Petroleum and Natural Gas Division of the Alberta Lands and Mines Department in Calgary, has left for New Zealand, where he will be associated with the Superior Oil Co. of California in projected development work.

WILLIAM H. VAUGHAN, designer of the Vaughan process for recycling gas in the Long Lake and Cayuga oil and gas fields, was honored last Friday at a Chamber of Commerce luncheon in Palestine, Tex. Talks were given by EARL PIERCE, president of the chamber; CLYDE HANKS, president of the Royall National Bank; Representative HAROLD L. KENNEDY, and ORIN CUTTER.

A. L. ACKERS, division geologist of Stanolind Oil & Gas Co. for West Texas and New Mexico, with headquarters in Fort Worth, has been placed in charge of subsurface geological work in the exploration department of the company's general offices in Tulsa. Mr. Ackers will assume his new duties about August 1. FRANK H. SCHOUTEN, formerly district geologist in Midland, will succeed Mr. Ackers in the Fort Worth office.

Do You Remember?

From The Oil and Gas Journal Files

25 YEARS AGO

Senator Gore of Oklahoma has introduced a bill in the U. S. Senate which would make it unlawful after January 1, 1915, for a pipe line company to transport from one state to another any oil which it owns.

Steel-tank building in Oklahoma in the summer is a hot and miserable job, and tank builders are talking of striking unless they are given a 4-hour working day at from $4 to $6 per day, according to the skill of the worker.

There are 29,177 oil wells in Oklahoma. Over 10,000 of these are in the Nowata-Chelsea district; over 9,000 in Washington and northern Tulsa counties, and 5,764 in the counties in the Creek Indian Nation.

20 YEARS AGO

The Atlantic Refining Co. is building an $8,000,000 plant in Brunswick, Ga. It will have a capacity of 10,000 bbl. of crude per day. Brunswick is an Atlantic coastal city.

Everett Carpenter, chief geologist for the Empire Companies, resigns to associate himself with Alfred J. Diescher. He is succeeded by L. C. Snider.

Amelita Galli-Curci and her Okmulgee associates are completing their second well in Section 29-14-11, Okmulgee County, Oklahoma. It looks good for 150 bbl. per day.

10 YEARS AGO

The Greater Seminole field in Oklahoma, including the St. Louis, Asher, and Sasakwa pools, is producing 397,869 bbl. per day. Santa Fe Springs, California, produces 295,000 bbl. per day.

Louisiana Gulf Coast fields produce 18,024 bbl. per day. The largest is Hackberry with 4,603 bbl.

JUDGE CLAY TALLMAN, general attorney for Stanolind Oil & Gas Co., Tulsa, is spending part of his vacation on the West Coast, with the World's Fair on his itinerary.

FRANK M. FARLEY, GOLDYNA PARRISH and ROBERT B. VIOLETTE, all of Fort Worth, Tex., have obtained a charter for Western Minerals, Inc. Its offices will be in Fort Worth.

WILL C. GRANT, public relations director for Lone Star Gas Co., Dallas, Tex., gave a talk on the principles of advertising before the Dallas Advertising League at a luncheon last week in the Adolphus Hotel.

WALLACE E. HAWKINS, of Dallas, Tex., has been appointed general counsel of Magnolia Petroleum Co. and Magnolia Pipe Line Co. Mr. Hawkins has been a member of the legal department of the two companies since February 15, 1925. He succeeds W. H. FRANCIS of Dallas, retired.

G. A. SADLER, of the Texas Railroad Commission, went to Washington, D. C., last week and conferred with Secretary Harold L. Ickes and officials of the Petroleum Conservation Division in an endeavor to get additional tender boards in Texas and Louisiana to enforce the Connally hot oil law. Mr. Sadler urged that boards be established in Houston, Baton Rouge and New Orleans. "I am definitely opposed to federal regulation of the oil industry," Mr. Sadler declared, adding he believed vigorous enforcement of the Connally law would be sufficient.

PAUL BENEDUM, of Benedum & Trees, independent operators of Houston, Tex., left last week for a vacation in Wisconsin.

C. L. MORGAN, geologist for Lion Oil Refining Co., has been transferred from the Shreveport office, which is being closed, to Tyler, Tex.

E. L. CASTER, Shreveport, La., Arkansas Fuel Oil Co. geologist, accompanied by Mrs. Caster, is on a vacation trip to the Mississippi Gulf Coast.

B. F. JONES, Republic Production Co., San Angelo, Tex., with Mrs. Jones and their daughters, Betty and Peggy, is on vacation in South and East Texas.

WILLIAM HARVEY EMMONS, head of the department of geology at the University of Minnesota, is spending a short time in Tulsa while revising his book, "Geology of Petroleum."

J. M. NISBET has rejoined Cities Service Oil Co. as manager of the land and geological departments. Mr. Nisbet resigned that post January 1, 1937, to give his personal attention to his citrus property at Upland, Calif.

W. R. BOWDEN, deputy supervisor of the Oil and Gas Division of the Texas Railroad Commission's District 8 office in Midland, Tex., has returned from a vacation trip to Fort Collins and Grand Lake, Colo. He was accompanied by Mrs. Bowden.

B. E. PARSONS, vice president, director and manager of the production department, and A. L. KNIPPING, JR., manager of the operating department of the marketing division of General Petroleum Corp., recently completed service records, the former of 25 years and the latter 20.

Fired a Katy Engine

It may seem queer, but although O. L. Stevenson, district superintendent in Kansas for Gulf Oil Corp., has a variety of things to be proud of in his career as an oil man, the period concerning which he confesses to a feeling approaching vanity is the one when he was a fireman on a Katy freight engine out of Parsons, Kans. He was 21 when he took the job, and friends predicted a boy who had just worked on a farm and gone to school wouldn't stand up under the severities of railroad firing. He did it 3 years—and liked it.

O. L. STEVENSON

But oil lured young Stevenson, and in January 1914 he went to work as a roustabout for the Gypsy Oil Co., a Gulf subsidiary, in the Glenn pool, Oklahoma. Three years later he was made a farm boss at Yale, Oklahoma, and in a few months he was promoted to superintendent. In 1918 he became district superintendent of the Yale area. In the years following he was shifted to various points as district superintendent. A special assignment in 1931 took him to South Dakota to supervise the drilling of a wildcat well. That finished, the company put him in charge of its operations at Seminole, Okla. In 1934 he was transferred to his present responsible post. This year he is rounding out a quarter-century of continuous service with Gulf.

Mr. Stevenson enjoys almost all athletic sports, but he gets his chief delight out of slipping away to his farm near Eldorado, Kans., where horses and dogs greet him. He and Mrs. Stevenson reside in Chase Kans. They have three sons.

E. L. PELHAM, Shreveport, La., operator, is on a vacation trip in New York.

A. D. CARLTON, of San Francisco, has been appointed assistant traffic manager of Standard Oil Co. of California.

GUY D. ADSIT, of the land department of the Phillips Petroleum Co. in Shreveport, La., is back from a vacation spent in fishing on the Gulf Coast.

A. K. TYSON, chief geologist in the Gulf Coast district for Continental Oil Co., in Houston, Tex., is spending his vacation on the West Coast.

W. E. GRAY, district drilling superintendent of Lago Petroleum Corp., left New York last week for Venezuela aboard the Santa Elena. He was accompanied by Mrs. Gray.

L. E. McARDLE, Shreveport, La., operator, and DICK ANDRADE and DON ROGERS, of Dallas, have formed the Mar Marketing Corp., a pipe-line concern with headquarters in Corpus Christi, Tex. The three men own a refinery there.

G. L. CLINE, president of the Ohio Independent Oil Co., Springfield, has been elected a member of the board of directors of the Ohio Petroleum Marketers' Association. He will serve out the unexpired term of Charles F. Heinzelman, of Chillicothe, who died last February.

ROBERT M. KLEINPELL, who maintained offices in Bakersfield, Calif., for the past several years as consulting geologist and petroleum engineer, has gone to Manila, Philippine Islands, for the National Development Co., which is making a minute survey to determine oil production possibilities in the islands.

ALVIN RICHARDS, chief counsel for the Pure Oil Co.'s southwestern producing division, was chosen vice chairman of the Mineral Section of the American Bar Association for 1940 at its recent convention in San Francisco. His election automatically puts him in line for the chairmanship in 1941. Mr. Richards has been active in establishing the proration program now observed in Oklahoma and Kansas.

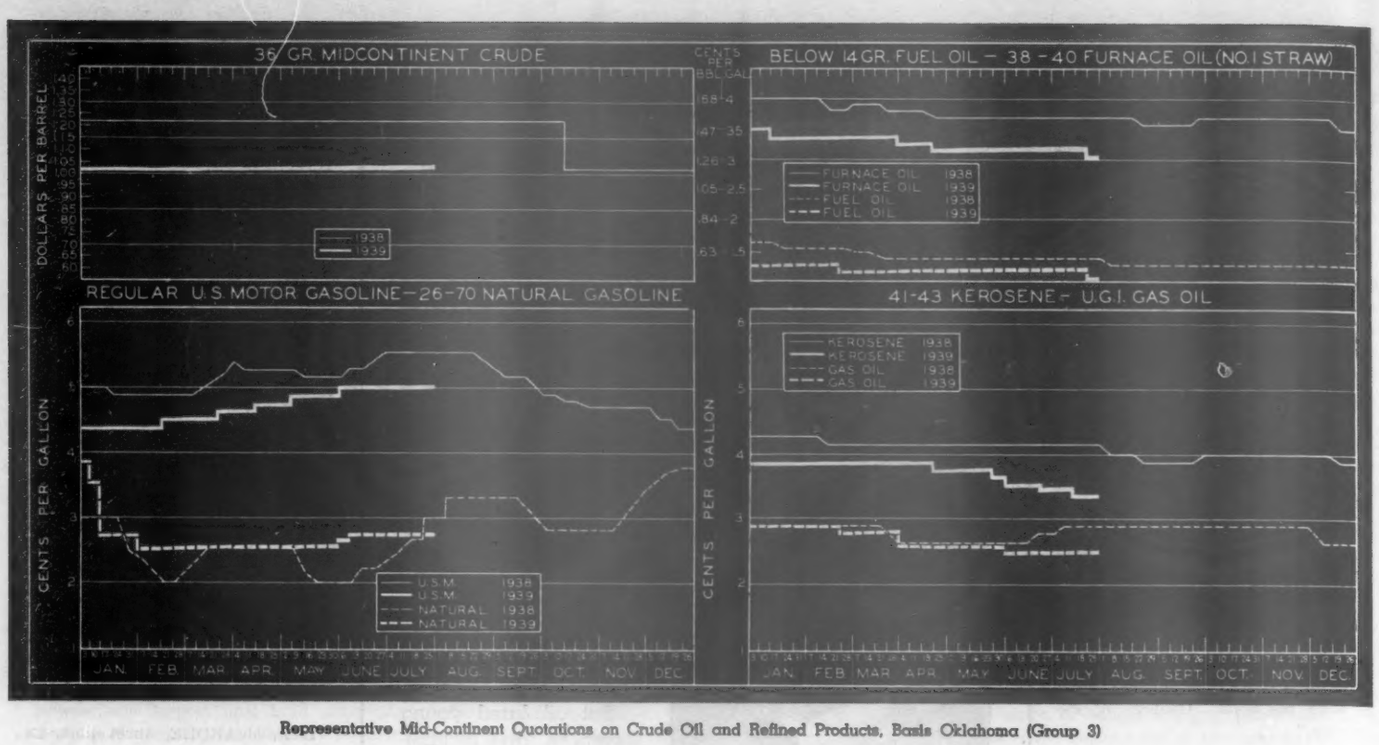
P. W. LAMBRIGHT has been appointed general manager of Romano-Americana, S.A., Standard of New Jersey operating subsidiary in Rumania. RALPH P. BOLTON, who previously served as manager of Romano-Americana, has been transferred from Bucharest to The Hague. Mr. Lambright has filled other Standard of New Jersey foreign assignments in Argentina and was with Standard-Vacuum for a time in the Dutch East Indies.

SHIFTS: ARNOLD HEGWER, engineer Texas Co., from Fairfax, Okla., to Sandoval, Ill.; E. A. FATH, Deutsche Vacuum Oel A-G Semperhaus B, from Hamburg, Germany, to Socony-Vacuum Oil Co., Inc., Cairo, Egypt; J. F. HENDRICKSON, engineer Phillips Petroleum Co., from Amarillo, Tex., to Phillips, Tex.; WALTER VAN NORMAN, vice president Bankline Oil Corp., from Houston, Tex., to Los Angeles, Calif.; W. C. ADAMS, geologist Deep Rock Oil Corp., from Robinson, Ill., to Morgan City, La.; U. T. HILL, engineer Cities Service Oil Co., from East Chicago, Ind., to Gary, Ind.; ANATOLE SAFONOV, geologist Ohio Oil Co., from St. Joseph, Mo., to Leavenworth, Kans.; J. D. McCLURE, geologist Barnsdall Oil Co., from Tulsa to Holland, Mich.; K. M. WILLSON, geologist Mid-Continent Petroleum Corp., from Tulsa to San Antonio, Tex.; E. D. WATSON, engineer Shell Pipe Line Co., from Douglass, Tex., to Henderson, Tex.; J. F. SCOTT, engineer Carter Oil Co., from Fairfax, Okla., to St. Elmo, Ill.; WILSON H. COCHRAN, engineer General Crude Oil Co., from Hamlin, Tex., to Houston, Tex.; R. N. BILLS, engineer Amerada Petroleum Corp., from Kinder, La., to Lake Charles, La.; C. ELLIS, superintendent Socony-Vacuum Oil Co., Inc., from Temple, Mich., to Byron Center, Mich.; EARL C. JUPIN, consulting geologist, from Salem, Ill., to Centralia, Ill.

JOHN M. LOVEJOY, president of Dominican Seaboard Oil Co. and other subsidiaries of Seaboard Oil Co. of Delaware, was host at a reception in New York last week for President Trujillo of the Dominican Republic. R. OGARRIO, vice president of Texas Co., was among New York oil men attending.

HORACE M. CONDLEY, formerly with Hickok Oil Corp., Cisco, Tex., has opened an office in Abilene, Tex., as an oil tax consultant and public accountant. His duties as auditor and business manager for the Arab Gasoline Co., Cisco, branch of Hickok Oil Corp., will be taken over by S. H. NANCE, Cisco.

J. S. WATSON, of the production treasury department of Shell Oil Co., Inc., formerly in charge of oil and gas accounting and prominently identified with the Petroleum Accountants Society and California Natural Gasoline Association, has resigned upon completion of 20 years' service. J. U. STAIR, vice president of Shell, presented him with a wrist watch and a 20-gage shotgun on behalf of his associates.



Representative Mid-Continent Quotations on Crude Oil and Refined Products, Basis Oklahoma (Group 3)

Soaring Demand for Gasoline Fails to Carry Prices to Profitable Level

By T. F. SMILEY

There were few grounds for dissatisfication with the Group 3 gasoline market this week. Demand was soaring, Mid-Continent stocks were in reasonably good position, and all that. In fact, there was only one lack worth mentioning, to-wit: there was no money in it.

Notwithstanding the heaviest consumption in history, the prices at which contract shipments were being made barely passed the break-even point. In the spot market the situation was even more joyless. Brokers were paying five-eighths of a cent below the commonly recognized contract prices and were selling to jobbers at an advance of a quarter-cent, or perhaps only an eighth-cent. Which is to say that while contract movement of regular-grade gasoline was for the most part at 5 cents a gallon, brokers were buying it in the open market for 4⅜ cents and selling it to jobbers at 4½ or 4⅝ cents.

Cheaper to Buy Than Make It

Some of the larger independent refiners were cutting back their own plant operations and buying gasoline instead of making it. One important refiner said he was turning away long-time spot-market customers rather than accept the loss which business at available prices involved. Some refiners said that in spite of the slashed prices at which much spot business was being done, they themselves were demanding—and getting—5 cents for regular-grade gasoline and 4¼ cents for low-octane material (62 and below). They added, however, that even these prices represented virtually profitless gallonage.

Likelihood of better prices in the Mid-Continent territory this summer was characterized as slender. If refiners are to get prices commensurate with the unprecedented consumption now prevailing the increase will have to come before the middle of August, according to common opinion. One ray of hope was seen in the moderately declining trend of refinery crude runs and the size of gasoline stocks in the Mid-Continent as compared with those in other areas. While the nation's stocks were about 1 per cent higher than they were in mid-July of 1938, Mid-Continent stocks were almost 8 per cent lower.

Natural gasoline displayed increased sturdiness, with quotations tightening. There was brisk buying by Gulf Coast refiners and there was an unexpected bulge in refinery purchases from the interior areas of Louisiana, Arkansas, and Texas. Most of this demand was for 26-70 material, a larger proportion of this grade being asked for than usual. Export inquiries and orders continued in satisfactory volume. Demand for part cargoes of 18- to 20-pound natural for August lifting was active.

Refined Oil Market Barometer

Although gasoline demand from world's fair tourists is somewhat below expectations, consumption is reaching record-breaking heights. Prices, owing largely to excessive stocks and refinery runs, are at almost profitless levels in many areas. Light fuels and kerosene are firmer on Atlantic Coast, but soft in interior territory.

MID-CONTINENT. Gasoline active, but prices soft. Light fuels easy. Naturals firm.

EAST COAST. Kerosene and light fuels steadier. Gasoline spotty. Residual oils easier.

GULF COAST. Gasoline steady. Kerosene firm. Burner, diesel, and fuel oils strong.

CALIFORNIA. Export gasoline down, but little moving. General market soft.

PENNSYLVANIA. Gasoline fairly steady. Bright stock improving. Neutrals holding.

CHICAGO. Gasoline movement heavy, but prices irregular. Kerosene soft.

Staying Out of Market

Most of the large manufacturers were reported to be out of the market at current prices, 2¾ cents for 26-70 in both Oklahoma and Texas. They were quoting ahead of the present market, however, for future business.

Movement of lubricants was maintained at a high level, but increased price-cutting was reported. Demand for neutral oils has been growing faster than that for bright stock owing to the fact that engines of the newer cars require a lighter lubricant than the old type; but there is a noticeably rising call for finished motor oils, jobbers having discovered it costs them less to buy the ready-to-sell product than it does to do the blending themselves.

The light fuels were so soft that some buyers apparently were holding back orders for fall material in the hope that they might get better prices. Notwithstanding the general easiness of the furnace oils the No. 1 and No. 2 straw were reported rather difficult to find. Kerosene was extremely dull, with concessions from ruling quotations easy to get. Heavy fuel was a little less active.

Upward Trend in Burning Oils Reported in Eastern Market

By H. STANLEY NORMAN

NEW YORK, July 25.—Anticipated demand for fall heating oils and the desire of buyers to cover their early requirements at prevailing prices exerted an upward pressure on markets last week for kerosene, Nos. 2, 3 and 4 fuels.

Boston prices for Nos. 2, 3 and 4 burning oils in tankcars moved ahead a quarter of a cent while kerosene was elevated there an eighth of a cent per gallon.

The tankcar price of Nos. 2, 3 and 4 fuel oil at New York was raised an eighth of a cent per gallon and shore plant diesel fuel an eighth of a cent.

The increase of heating oil prices at Boston and New York was instituted by Socony-Vacuum Oil Co., Inc., and was immediately followed by Standard Oil Co. of New Jersey marketing subsidiaries.

On July 18 the tankcar price for Nos. 2, 3 and 4 fuel oil was raised an eighth of a cent at New York making the current quotation 3⅞ cents per gallon. On July 19, the tankcar price of Nos. 2, 3 and 4 oil was raised a quarter of a cent to 4 cents per gallon and kerosene was advanced an eighth of a cent to 4⅜ cents. Shore plant diesel oil was raised an eighth of a cent at New York to 3⅞ cents. There was no change in kerosene at Boston.

Motor fuel prices throughout the eastern territory were approximately unchanged. Tankcar sellers in the New York district are asking 6 to 6¼ cents per gallon for 70-octane motor fuel and the Gulf Coast market for 72-octane (leaded or unleaded) continues at about 5¼ cents.

A local price disturbance in Vermont brought about a reduction of 1½ cents in the tank-wagon price there on July 14. Socony-Vacuum lowered its tank-wagon price at Burlington, Vt., to 11½ cents per gallon, including state and federal taxes.

Motor fuel marketing conditions in Kings County (Brooklyn) and Queens County, New York, have improved sufficiently in the past week to permit reinstatement of the resale price maintenance contracts between Socony-Vacuum and its dealers. In announcing reinstatement of the resale price contracts under the Feld-Crawford Act, the company said: "Since we suspended resale price maintenance on June 30 in Kings County and on June 1 in Queens County in respect to Mobilgas and Mobilgas Special, we find that most of the dealers in these products are selling at 6 gal. for 98 cents, including taxes. We feel that conditions justify our resumption of resale price maintenance under the Feld-Crawford Act and are accordingly establishing the following authorized minimum resale prices effective July 21, 1939: Mobilgas, 18.4 cents per gallon, or 6 gal. for 98 cents, including taxes; Mobilgas Special, 18.4 cents per gallon, including taxes. The prices at stations operated by us and our subsidiaries in these counties will necessarily be adjusted to this level."

Motor fuel consumption in this area during July has been reasonably high with most distributors reporting an increase of 5 to 10 per cent over the same period last year. However, two weeks of only moderately warm temperature have tended to curtail over-the-week-end motoring to beaches and other retreats from midsummer heat. The curtailment of local week-end driving has been more than offset in this section by an increase in travel by out-of-state visitors to the New York World's Fair, although dealers continue to complain that consumption by fair motorists is below expectations—a confidence that was perhaps too ambitious.

Reports were current that 65-octane motor fuel occupied a weak market position in New York. One or two suppliers were reported offering the low-octane material at 5¾ cents per gallon in barges. The tankcar market ranges around 6 to 6⅛ cents per gallon while a few in a more stable stock position continue to ask 6¼ cents.

Cargo prices for light fuels on the Gulf Coast moved ahead an eighth of a cent per gallon early last week and a few suppliers started asking higher figures as early as the second full week in July, anticipating an upturn in demand for the fall season. Practically all Gulf Coast refiners are currently quoting 3⅛ cents per gallon for No. 2 fuel oil compared to a low of the previous range at 2⅞ cents. Movement of kerosene and other fuel oils is gaining momentum in the territory north of New York, particularly that served most economically by the inland waterways. Within a month, provided the summer season is no longer than normal, the up-state New York and New England sections will require artificial heating in the mornings and evenings. The pick-up in fuel oil burner sales so far this year to levels approximating 1937 is certain to exert an upward pressure on consumption.

Bunker C fuel oil appears to be holding its market levels reasonably well in most sections, although Gulf Coast suppliers have retreated slightly from the peak quotation of 80 to 81 cents per barrel. Cargoes of Bunker C fuel oil are available in several directions on the Gulf at 78 cents per barrel and none is asking more than 80 cents.

At North Atlantic terminals the bunkering price remains firm at $1.05 per barrel and most shore plant operators are asking $1.15 per barrel from tank-wagon customers. There is no doubt, however, that the residual fuel oil market structure is slightly weakened since the middle of June. About the only petroleum product showing unqualified retreat from earlier price levels is wax. White scale was available at Pennsylvania refineries for 2.85 cents per pound, basis New York export. Other suppliers said they had dropped their prices only a tenth of a cent to 2.9 from the previous peak of 3 cents. New York wax exporters generally quoted 124-126 white scale at 2.85 to 2.9 cents and the same figures were generally asked by Gulf Coast refiners.

Bright stock in western Pennsylvania was reported in brisk demand and some refiners have increased their prices as much as a half-cent per gallon on 25-pourtest material. However, other sources are quoting at previous levels, resulting in a spread of the price range, but leaving the minimum and maximum practically unaltered. The price range for 25-pourtest bright stock in tankcars currently ranges from 15½ to 16½ cents per gallon. Neutral oils are unchanged at 15 to 17 cents.

Fear is growing that the petroleum industry is destined to carry a more abundant supply of motor fuel into the winter season than last year and buyers are watching this development with undivided attention. This prospect has exerted pressure on the cargo and tankcar market for several weeks and has prevented the price structure from compensating the record demand. The net result of price advances in the middle of June, most of which were not maintained, was a gain of .18 of a cent in the average price computed from postings at 50 representative cities.

A. P. I. Weekly Refinery Statistics

Week Ending July 22, 1939

	Capacity reporting (per cent)	Daily crude runs (bbl.)	Total gasoline stocks	Gas oil and fuel oil stocks
East Coast	100.0	561,000	20,744,000	10,504,000
Appalachian	85.9	109,000	3,270,000	623,000
Indiana, Illinois, and Kentucky	89.5	477,000	12,570,000	6,055,000
Oklahoma, Kansas, and Missouri	81.6	265,000	6,470,000	4,284,000
Inland Texas	50.3	129,000	1,638,000	2,210,000
Texas Gulf	89.5	804,000	9,202,000	11,094,000
Louisiana Gulf	97.3	138,000	2,131,000	2,650,000
North Louisiana and Arkansas	55.0	41,000	494,000	819,000
Rocky Mountains	54.2	42,000	1,401,000	705,000
California	90.0	482,000	14,915,000	95,098,000
Total reported	85.8	3,048,000	72,835,000	134,042,000
Estimated unreported	.....	347,000	5,125,000	3,135,000
*Estimated total	.....	3,395,000	77,960,000	137,177,000
*Estimated total previous week	.....	3,390,000	79,416,000	136,485,000
*July 23, 1938	.....	3,221,000	77,835,000	141,941,000

*Bureau of Mines, currently estimated.

Stocks of Crude Oil in the United States

(BUREAU OF MINES ESTIMATE)

Week ending July 15, 1939	268,119,000 barrels
Week ending July 8, 1939	269,348,000 barrels
Week ending July 16, 1938	289,312,000 barrels

Figures do not include stocks of heavy, unrefinable California crude.

Canadian Fields

Completions and Operations in Northwest and in Ontario

By VICTOR LAURISTON

CHATHAM, Ont., July 22.—Deliveries from Turner Valley to major refineries in June totaled 787,125 bbl., compared with 638,994 bbl. in May and 418,287 bbl. in June 1938. For the 6 months of 1939 pipe-line runs reached 3,051,156 bbl., against 2,410,101 bbl. in the same period last year. Of the June deliveries, Imperial Oil took 11,828 bbl. of naphtha and 576,581 bbl. of crude, and British American Oil Co. took 7,913 bbl. of naphtha and 190,803 bbl. of crude. For the 6 months, Imperial Oil receipts amounted to 2,358,474 bbl. and British American receipts 692,682 bbl.

For the 5 months the total Canadian output was 2,544,472 bbl., or 6.8 per cent increase over the 2,381,771 bbl. produced in the same period last year.

Turner Valley Allowables

Effective July 18, the Petroleum and Natural Gas Conservation Board for Alberta increased aggregate allowables for the Turner Valley crude area from 27,000 to 28,000 bbl. a day, due to several new producers coming in. The total flow for Turner Valley crude wells, as tested through 1-in. choke, is 62,413 bbl. a day, with average gas-oil ratio considerably below 3,000 ft. Under the 27,000-bbl. allowable, crude wells steadily maintained their quotas.

In Section 32-18-2w5, on the Turner Valley west flank, George Harris and associates No. 2, LSD 15, finished in the lime at 7,565 ft., flowed 990 bbl. a day through 1-in. choke and was given allowable of 600 bbl. a day. British Colonial Oils No. 1, LSD 5, same section, finished at 8,364 ft., was acidized with 9,000 gal. and averaged 1,031 bbl. a day, allowable being set at 765 bbl.

In Section 16-18-2w5, Okalta Oil Co. No. 8, LSD 6, finished at 7,102 ft. with temporary allowable to 255 bbl., has been gun-perforated and is waiting for packer to make final test.

Anglo-Canadian Oil Co. No. 5, LSD 8, Section 31-18-2w5, finished at 8,640 ft., 403 ft. in the lime, is testing with indications of a large well.

In Section 5-19-2w5, West Central Turner Valley, Winalta Royalties No. 1, LSD 1, finished around 7,248 ft., 451 ft. in the Madison, and blew into initial production of 40 bbl. an hour, with heavy gas pressure. Calwin Royalties No. 1, LSD 15, same section, finished at 7,257 ft., 522 ft. in the lime, and has run tubing preparatory to acidising.

Tests in the Lime

In Section 17-18-2w5, Anglo-Canadian Oil Co. No. 4, LSD 6, is below 8,096 ft. after getting the Madison lime at 7,855 ft. West of the main field, Scottish Petroleums No. 1, LSD 16, Section 19-18-2w5, is below 8,646 ft. after getting the Madison at 8,530 ft.

Three Royalite Oil Co. tests have recently entered the lime. In Section 5-19-2w5, West Central Turner Valley, Royalite No. 40, LSD 4, got the lime at 7,443 ft. and is deepening below 7,679 ft.

Home Oil Operations

An interim report of Home Oil Co., of Vancouver, B. C., states that by mutual agreement the negotiations with Standard Oil Co. of California for development of the Home acreage in North Turner Valley have been suspended for the present year. Since the Standard has not completed its contemplated arrangements in Alberta for refining and marketing, completion of the agreement at the present time would be of little value to either company. The Home company is proceeding with two tests in North Turner Valley which are expected to get production from 500 to 1,000 ft. higher than Home No. 2, which is the largest producer in the Turner Valley field. Contracts on both wells are on a turn-key basis. Holdings in this area now total 10,560 acres.

On the Pouce Coupe structure, in the northern foothills west of Peace River, Benedum & Trees No. 1 Guardian, Section 7-80-12w6, is below 3,160 ft. and coring at intervals, with production expected around 4,200 ft. Survey of the structure is being made to determine new locations.

New Royalite Tests

In the southwest extension, Royalite Oil Co. No. 44 is working on cellar in LSD 9, Section 8-18-2w5. Location is immediately south of Royalite Oil Co. No. 38, LSD 16, same section, which finished a very large well. Royalite No. 45 has been spotted in LSD 14, Section 5-19-2w5, in West Central Turner Valley, a little north and west of Vulcan Brown Petroleums No. 1 producer. Royalite No. 46 is working on cellar in LSD 2, Section 17-18-2w5, immediately west of Royalite No. 41, which has just entered the lime.

Steveville Operations

In the Steveville field, east of Calgary, Anglo-Canadian Oil Co.'s operations failed to develop commercial crude in two wells despite good shows encountered at the Madison-lime contact.

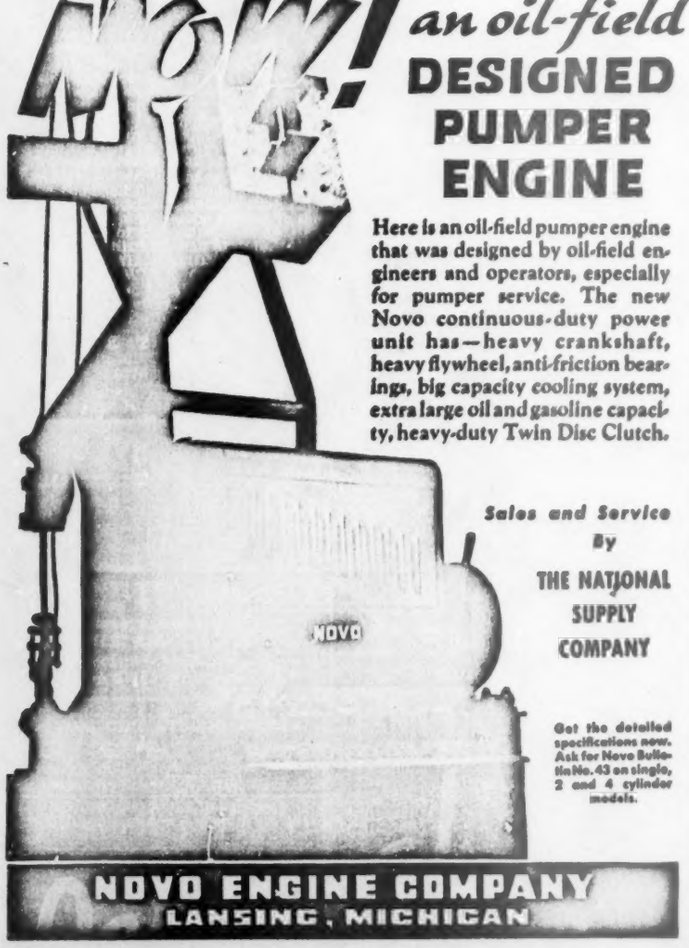
Anglo-Canadian Oil Co. No. 3, SW¼ Section 34-19-10w4, has been spotted on the Rainy Hills extension of the Steveville field southeast of No. 2. California Co. No. 1 has been spotted in Section 7-18-2w4 and will spud some time in August.

Northeast of Turner Valley, Dr. J. O. G. Sanderson will conduct a geological survey of 20,000 acres on the Sarcee Indian Reserve for Highwood-Sarcee Oils, Ltd., with a view to locating a commercial test.

South of Turner Valley, Alberta Pacific Consolidated Oils, Ltd., is arranging for development of acreage held for many years by Alberta Associated Oils, Ltd., of Calgary. Drilling is to start by October 15.

East Central Alberta

In the Vermilion area, East Central Alberta, W. Wilson and associates are working on cellar for a test for gas in Section 20-50-5w4. Location is 6 miles east and 1 mile south of Vermilion. The Wain Town Oil & Gas Co. and Battleview Oils, Ltd., are both interested in the new test.



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NOVO ENGINE COMPANY
LANSING, MICHIGAN

Here's how you can eliminate piston rod breakage on your sleb pumps—standardize on MacClatchie Wearevers!

These rods are guaranteed, fully and completely, against breakage while in use on your pumps. Any pumps damaged through breakage of a Wearever Piston Rod equipped with MacClatchie Wearever Pistons will be repaired free of charge, and, in addition, a new rod will be given for the one broken! That's your guarantee of better performance from MacClatchie equipment

MacClatchie Wearever Piston Rods are made of the finest selected ball race steel, hardened and ground to a mirror finish. They are available in a wide range of sizes and tapers for all pumps. We strongly recommend the MacClatchie Special Taper Rod, which has just the right amount of taper to hold the piston under the highest pressure, yet sufficient contact surface to prevent it from pushing into the piston body.

Write for Full Details

Simple in design . . . Ruggedly built . . . Require no special care . . . Gear Ratio and throw of crank produce required speed with no strain. Curtis Centrifuges meet all A.S.T.M. Standard Method D-96-35 and A.P.I. Code No. 25 requirements. Fully descriptive literature upon request.

W·H·CURTIS & CO. INC.
HOUSTON TEXAS

WILDCAT OPERATIONS

OKLAHOMA

Week Ending July 22

NORTHERN OKLAHOMA

Alfalfa County

F. W. Dye et al No. 1 Belter, C SE Sec. 32-28-10w. T.D. 550 ft.; W.O.C.

Atoka County

Gillett No. 1 Rich, SE SE SW Sec. 2-1-12. S.D. 728 ft.

Caddo County

Sinclair Prairie Oil Co. No. 1 Gorman, SW NW NW Sec. 1-16-13w. Drlg. sh. 4,322 ft.

Cleveland County

Hall & Briscoe No. 1 Mantooth, NW NW NW Sec. 24-6-1e. Wdfrd. 3,500 ft.; 2nd Wlx. 6,322 ft.; T.D. 6,387 ft.; D. &A.

Nels Burton No. 1 Boggs, NE NE SE Sec. 16-9-2w. 2nd Wlx. 7,585 ft.; T.D. 7,646 ft.; P.B. 7,473 ft.; retreated and swbd. down.

Nels-Burrton No. 1 Hirsch, NW NW NE Sec. 17-9-2w O.W.P.B.; O.T.D. 7,692 ft.; T.D. 7,695 ft.

Sinclair-Prairie No. 1 Ward, SE SE SE Sec. 30-7-1. Drlg. 600 ft.

Comanche County

Mid Night Oil No. 1 Howe, NW NW NE Sec. 30-2-13w. O.W.D.D.; O.T.D. 703 ft.; T.D. 894 ft.; drlg. by tools.

Creek County

Anderson-Prichard No. 1 Geis, C NE SW Sec. 15-18-9. W.O.C. 1,272 ft.

Selby O. & G. Co. No. 1 Moore, SE NE SW Sec. 36-16-7. S.D. 1,480 ft.; wtr.

Ellis County

Enterprize Drlg. Co. No. 1 Wahl, SE NW NW Sec. 1-19-25w. Sd. 660-65 ft.; T.D. 730 ft.; S.D.O.

Garfield County

Gulf Oil Corp. No. 1 Thomas, C W½ SW SW Sec. 21-24-4w. Miss. 5,585 ft.; drlg. 6,072 ft.

Kerlyn Oil Co. No. 1 Hein, NW NW NW Sec. 36-22-4w. T.D. 5,042 ft.; S. D.O.

Grady County

J. B. Nichlos No. 1 Bushnell, NW NE SE Sec. 7-5-8w. Drlg. 3,945 ft.

Grant County

Smythe & O'Mara No. 1 State, C SE SW Sec. 16-25-4w. Sdy. dolo. 5,945 ft.; Wlx. 5,985 ft.; T.D. 6,215 ft.; Schlumberger showed S.W.; D.&A.

Greer County

C. S. Amos No. 1 Banks, C NW SW Sec. 21-7-22w. Drlg. 375 ft.

Hughes County

Carter Oil No. 1 Hamilton, C W½ NE SW Sec. 32-4-9. T.D. 4,235 ft., S.D.

Harper County

Sinclair Prairie No. 1 George, SW SW SW Sec. 5-27-23w. Drlg. 7,357 ft.

Jackson County

English & Morgan No. 1 Lee, NW NW SE Sec. 36-2-19w. S.G. 1,360-63 ft.; T.D. 1,603 ft.; P.B. 1,243 ft.; S.D.O.

Jefferson County

H. M. Weir No. 1 Carmichael, NE NE SW Sec. 23-7s-7w. Drlg. 3,525 ft.

Kay County

Roy Starr No. 1 State, NE NE SW Sec. 13-29-2w. Miss. 3,636 ft.; Arb. 4,025 ft.; T.D. 4,075 ft.; D.&A.

Kingfisher County

Ace Gutowsky No. 1 Lankford, NE NE SE Sec. 34-17-6w. Miss. 7,014 ft.; Woodford 7,531 ft.; Msnr. 7,562 ft.; Wlx. 8,-105 ft.; 2nd Wlx. 8,275 ft.; T.D. 8,330 ft.; S.D.O.

Kiowa County

Bollen-Dillard & Roberts No. 1 Holcomb, NE NE SW Sec. 25-7-19w. S.D. 300 ft.

Hagerling et al No. 1 Bozeman, SE SE NE Sec. 14-5-18w. Drlg.

C. J. Hagerling No. 1 Kimrav, SW SW NW Sec. 36-5-18w. T.D. 1,000 ft.; M.I. csg.

Lewis & Meyers No. 1 Ford, NE NE SE Sec. 14-7-18w. Drlg. 1,025 ft.

Russell S. Tarr No. 1 Kelsay, SW SW NW Sec. 20-7-17w. Pay 1,050-51½ ft.; F. 70 B.O.P.H. by hds.; est. 1,500 to 2,000 B.O.P.D; S.I.

Lincoln County

Black Gold No. 1 Locquchment, NE NE NE Sec. 28-14-6. T.D. 3,175 ft.; est. 5 B.O.P.D.; S.D.

Cooper Drlg. Co. No. 1 Prowant, NW NW SE Sec. 11-16-4. Drlg. 3,299 ft.

W. A. Villines No. 1 Marshall, NW NE NE Sec. 28-15-4. T.D. 5,080 ft.; S.D.

Logan County

Cooper Drlg. et al No. 1 Miller, NW NW SE Sec. 4-17-4w. Drlg. 3,967 ft.

Noble County

Shell Oil Co. No. 1 Mosena, C W½ W½ SE Sec. 9-21-2. Drlg. 2,580 ft.

Pawnee County

Ed Kelly No. 1 Hill, SW SW SE Sec. 1-21-5. T.D. 2,845 ft.; whipstock 2,840 ft.; drlg. by tools.

Payne County

C. R. Hoagland No. 1 Stanolind, SE SE SW Sec. 27-18-4. Drlg. 3,075 ft.

Pottawatomie County

Alma Oil Co. No. 1 Johnson, SW NW SW Sec. 19-6-5. 2nd Wlx. 4,025 ft.; T. D. 4,062 ft.; P.B. 3,019 ft.; perf. 2,890-2,900 ft. in Earlsboro; F. 20° B.O.P.D.

F. W. Cooper No. 1 Strawn, SE SE SW Sec. 32-8-5. T.D. 4,411 ft.; S.D.

Kirk-Greenway et al No. 1 Boland, SE NE NW Sec. 28-11-3. Drlg. 3,070 ft.

Sequoyah County

Thompson Bros. No. 1 Ruby, NW NW NE Sec. 30-12-22. Hntn. 1,451 ft.; drlg 2,130 ft.

Seminole County

Flynn et al No. 1 Work, NE SE SE Sec. 19-8-7. Wlx. 4,276-92 ft.; set pipe.

Stanolind O. & G. Co. No. 1 McMahan NE NE SE Sec. 12-9-7. T.D. 3,538 ft.; D.&A.

Washita County

Continental Oil Co. No. 1 Proctor, C NW Sec. 28-10-20w. Drlg. 13,442 ft.

John Koberg No. 1-A Harms, C NW NE Sec. 6-10-16w. T.D. 6,000 ft.; tools moved out.

L. B. McWhirter No. 1 fee, NW SW SW Sec. 34-8-19w. T.D. 2,250 ft.; S.D.

SOUTHERN OKLAHOMA

Carter County

Pure Oil Co. No. 1 Noble, NE SE Sec. 35-3s-1e. T.D. 8,500 ft.; P.B. 6,530 ft.; tstd. wtr. at 6,319 ft.; set 7-in. 4,632 ft.; tstd. Hntn. 4,638-4,737 ft.; csg. perf. 11 times with 133 shots at 4,160-4,324½ ft.; swbd. 105 B.O. in 24 hrs.

Choctaw County

Letchfield & Kirkaly No. 1 Schuester, SW SE SW Sec. 13-6s-14. Drlg. 150 ft.

Clyde Ross et al No. 1 Hardy, SE SE NW Sec. 21-7s-15. Drlg. L. 1,620 ft.

Jefferson County

H. W. Weir No. 1 Carmichael, NE NE SW Sec. 23-7s-7w. Drlg. sd.&sh. 4,380 ft.

Love County

Love Co. Oil Co. No. 1 Wilson, NW NW SW Sec. 35-6s-2e. Loc.

Marshall County

Hughes et al No. 1 Vittitoe, C NE SE Sec. 11-5s-4e. O.W.D.D.; O.T.D. 7,100 ft.; T.D. 7,110 ft.; set plug 4,450 ft.; S. 51 B.F.P.R.

Johnson et al No. 1 Godfrey, SW SE NE Sec. 14-6s-6e. Loc.

Tillman County

Oil Inv. No. 2 Hammell, NE NW NW Sec. 6-5s-15w. O.W.D.D.; O.T.D. 2,829 ft.; T.D. 3,353 ft.; S.D.

KANSAS

Week Ending July 22 (Descriptions are East unless marked otherwise)

Atchison County

Earl Wakefield et al No. 1 Natl. Life Ins., C NW NE Sec. 17-6-20. Set 12-in. 875 ft.; drlg. 905 ft.

Barton County

Armer and Vernon O. & G. Co. No. 1 Hoffman, NW NW SW Sec. 18-16-11w. Tpka. 2,625 ft., Lans. 3,045 ft.; T.D. 3,217 ft.; pot. 527 B.O.

B. B. & M. Drlg. Co. No. 1 Esfeld, NW NW SE Sec. 28-16-11w. Lans. 3,055 ft.; Arb. 3,337-45 ft., T.D.; pot. 2,750 B.O.; comp.

J. A. Brouk et al No. 1 Pospishel, NE NE SE Sec. 20-17-15w. Tpka, 3,010 ft.; Arb. 3,548 ft.; T.D. 3,564 ft.; S. 3 B. O.P.H.

Crown Pet. Co. No. 1 Marchand, NE SE NW Sec. 13-20-1w. M.I.M.

R. E. Day et al No. 1 Feltes, SE SE NE Sec. 14-16-12w. O.W.D.D. O.T.D. 1,875 ft.; T.D. 3,574 ft.; S. 13 B.O.P.H.

Butler County

Carey & Jennings No. 1 Kelly, C SW Sec. 20-27-4. S.D. 2,300 ft.

Cromwell & Lewis No. 1 Stern, NW NW NW Sec. 27-27-6e. M.I.M.

G. S. Lucas and White Star Oil No. 1-A Lucas, NE NW NW Sec. 14-28-6. Drlg. 1,040 ft.

Comanche County

Kerr-Lynn et al No. 1 McMoran, C SE NW Sec. 25-34-16w. Drlg. 4,620 ft.

Cowley County

Eason Oil Co. No. 1 Muret, SE SE NE Sec. 25-33-3. Drlg. 3,041 ft.

J. R. Lowell et al No. 1 Olsen, NE NE SE Sec. 13-35-7. M.I. mch.

E. J. Shaffer, Inc., No. 1 Starlin, NE NE SW Sec. 27-30-4. R.R.

Western Kans. O. & R. Co. No. 1 Gregory, SE SE NW Sec. 2-34-6. Rig.

Dickinson County

Franks et al No. 1 Huffman, NW NW SW Sec. 11-13-1. Hntn. 2,807 ft.; drlg. 2,925 ft.

Douglas County

Three Star Oil Co. No. 1 Griffith, C NW SE Sec. 4-14-8e. Spd.

Ellsworth County

I. W. Murfin No. 1 Loula, NW NW SE Sec. 28-16-10w. Arb. 3,282-3,301 ft., T.D.; pot. 640 B.O.

I. W. Murfin No. 1 Zajic, C S½ SW NE Sec. 31-16-10w. Spdg.

Geary County

Scheu & Tague No. 1 Ave, NW SW NW Sec. 10-12-8. Drlg. 1,965 ft.

Gray County

Champlin Ref. No. 1 Dirks, C NE SW Sec. 34-28-29w. Drlg. 6,305 ft.

Greenwood County

James Enright et al No. 1-A Schwab, SE SW SE Sec. 9-24-10. T.D. 1,750 ft.; D.&A.

C. L. Sheedy No. 1 fee, C E½ NE NW Sec. 13-25-12. T.D. 1,755 ft.; D.&A.

Kingman County

Skelly Oil Co. No. 1 Miller, CNL N½ NE Sec. 31-27-10w. Set 7-in. 4,067 ft.; R.U. S.T.

Miami County

Dave Judd No. 1 Waite, CNL SW SE Sec. 4-15-25. S.D. 732 ft.

Montgomery County

Lerke & Whortan No. 1 Clemmer, C SW

KEY TO ABBREVIATIONS USED IN DRILLING REPORTS

Abd., abandoned.
Acd., acidized.
B.O., barrels of oil.
B.P.D., barrels per day.
B.D., barrels daily.
B.P., back pressure.
B.R., building rig.
B. ck., bottom choke.
Br. sh., brown shale.
B.S., basic sediment.
C.&P., cellar and pits.
Cd. or Crd. cored.
C.D., correct depth.
Cg., coring.
Cmtd., cemented.
C.O., cleaning out.
Comp., completed.
Compr., compressor.
C.P., casing pressure, also cement through perforations.
Csg., casing.
D.D., drilling (or drilled) deeper.
Drlg. or Drg., drilling.
Drk. or Dk., derrick.
D.S., drill stem.
D.S.T., drill stem test.
D.&A., dry and abandoned
Fsg., fishing.
Gbo., gumbo.
G.I., gas injection.
Gr., gravity.
Gr. sd., gray sand.
Grn. sh., green shale.
Hd. sd., hard sand.
H.F.W., hole full of water.
I.P., initial production.
L., lime.
L.D.D., later drilled deeper.
Lnr., liner.
Loc., location.
M.I.M., moving in material.
M.I.R., moving in rig.
M.I.R.T., moving in rotary tools.
M.O.T., milling on tools.
O.I.H., oil in hole.
O.S., oil sand.
O.T.D., old total depth.
O.W.D.D., owell drilling deeper.
O.W.P.B., old well plugging back.
P.B., plugging back.
P.B.P., pulling or pulled big pipe.
P.L., pipe line.
P.L.O., pipe line oil.
Pmpg., pumping.
P.O.P., putting on pump.
P.P., pulled pipe.
Rd. sd., red sand.
Rd. sh., red shale.
Recmt., recemented.
Recvd., recovered.
Rmg., reaming.
Redrlg., redrilling.
Rng., running.
R.O.G., rig on ground.
R.P., rock pressure.
R.U., rigging up.
R.U.R., rigging up rotary.
R.U.S.T., rigging up standard tools.
R.&T., rods and tubing.
S. or Sd., sand.
S.D., shut down.
Sdy. sh., sandy shale.
Sdtrk. or St., sidetracking.
S.D.P.L., shut down for pipe line.
S.D.O., or S.D.W.O., shut down awaiting orders.
S.G., show gas.
Sh.&L., shale and lime.
S.I., shut in.
S.I.P., shut in, prorated.
S.L.M., steel line measurement.
S.O., show oil.
S.O.G.&W., show of oil, gas and water.
Spdg. or Spd., spudding.
S.R., straightreaming.
Stdg., standardizing (also standing)
S.W., salt water.
Swbg., swabbing.
T.A., temporarily abandoned.
Tbg., tubing.
T.D., total depth.
T. ck., top choke.
T.P., tubing pressure.
Tr., tract.
Tstd., tested.
U.R., underreaming.
W.I.H., water in hole.
W.O., workover.
W.O.C., or W.O.C.S., waiting on cement to set.
W.O.O., waiting for orders.
W.P., working pressure.
W.S.O., water shutoff.
W.S.S.O.K., water shutoff O.K.
W.S.R or W.O.S.R., awaiting standard rig.
Wtr., water.

SW Sec. 21-32-15. Arb. 1,530 ft.; set 8-in. csg.; W.O.C.

Kiowa County

Sinclair Prairie No. 1 Price, NW NW SW Sec. 22-28-20w. Miss. 4,910 ft.; Arb. 5,538 ft.; T.D. 5,800 ft.; prep. to test.

Osage County

J. M. Edwards No. 1 Detrick (O.W.D.D.), C NW SE Sec. 21-14-15. O.T.D. 1,200 ft.; S.G. in sh. 1,618-24 ft.; S.D. 1,640 ft.

Pratt County

Skelly Oil Co. No. 1 Royse, C SW Sec. 9-28-11w. Drlg. 3,328 ft.

Reno County

Herndon Drlg. Co. No. 1 Compton, CEL SE NW Sec. 31-25-10w. T.D. 4,000 ft.; D&A.

Rice County

Frank Hollow et al No. 1 Guldner, SE SE SE Sec. 5-18-9w. Drlg. 2,450 ft.

Phoenix Drlg. No. 1 Linville, SW SW SE Sec. 4-20-10w. Drlg. 2,135 ft.

E. J. Shaffer No. 1 Bauer, C W½ SW SW Sec. 23-21-7w. T.D. 3,402 ft.; pot. 790 B.O.

Skelly Oil Co. No. 1 Bernstorf, CSL SE SE Sec. 22-19-10w. Arb. 3,282-94 ft.; pot. 734 B.O.

C. H. Weaver No. 1 James, NE NW SW Sec. 25-19-10w. T.D. 3,301 ft.; D&A.

Rooks County

Broadview Oil No. 1 Baxter, NE SW SW Sec. 35-8-16w. Drlg. 2,435 ft.

Russell County

Braden & McClure No. 1 Biehm, SW SW NW Sec. 11-14-14w. T.D. 3,300 ft.; D&A.

Central Pet. No. 1 Crisman, SW NW NE Sec. 20-14-14w. Drlg. 1,710 ft.

Phillips Pet. No. 1 Maier, SW SW NE Sec. 15-15-14w. Lans. 3,002 ft.; Arb. 3,249-57 ft., T.D.; 2,800 ft. O.I.H.; P.B. 3,253 ft.

Shell Oil Co. No. 1 Berrick, NW NW SE Sec. 13-15-13w. T.D. 3,386 ft.; D&A.

A. H. Witt No. 1 Speere, SW SW NE Sec. 7-14-14w. Drlg. 2,960 ft.

Sherman County

Goodland Ind. Gas Co. No. 1 Wilcoxson, SE NW Sec. 27-8s-39w. T.D. 1,100 ft.; est. 25,000 cu. ft. gas.

Stafford County

Virginia Drlg. No. 1 Tieperman, NE NE SW Sec. 29-21-12w. Arb. 3,610-17 ft.; 300 ft. O.I.H.

Sumner County

Palmer Oil Corp. No. 1 Lawson, SW SW SE Sec. 9-35-2e. Drlg. 1,100 ft.

Woodson County

Bird, Hanley & Sweedy No. 1 Pingrey, C S½ SE Sec. 22-25-15. Spd.

Roby et al No. 1 Mears, SW SW NW Sec. 21-25-14. Bvlle. 1,367-70 ft.; S.O.; S.D.

MISSOURI

Andrew County

Davis Bros. et al No. 1 Gee, NW NW SE Sec. 28-60n-35w. S.O. in Bart. 995 ft.; S.D. 1,100 ft.; reprs.

Jones & Hyde No. 1 Holt, SE NW NE Sec. 34-60-35w. Bart. 1,003 ft.; S.D. 1,038 ft.; reprs.

Bollinger County

Delmund Oil No. 1 Cooper, SE SE SE Sec. 14-29-9e. Drlg. 1,450 ft.

Butler County

Coastal Pet. et al No. 1 Pierson, SW NE NW Sec. 27-22-6e. Drlg. 1,637 ft.

Clay County

Eastern Drlg. Co. No. 1 Williams, NW NW NE Sec. 28-53-32w. S.S.O. 475-80 ft.; gas 595 ft.; set csg. 1,452 ft.

Clinton County

C E King et al No. 1 Willis, NE SE SE Sec. 13-55n-32w. Miss. 895 ft.; S.D. 1,-886 ft. in Wlx.

DeKalb County

Geo. W. Moore No. 1 McQuate, NE SW SW Sec. 11-57n-31w. Miss. 1,075 ft.; S.D. 1,428 ft.

Hickory County

J. W. Sims No. 1 Wilson, NW NW NW Sec. 3-37n-21w. Drlg. 1,634 ft.

Holt County

Brin & Nathan No. 1 Decker, C NW NW Sec. 1-61-38w. Drlg. 190 ft.

Brin & Nathan No. 1 Garrett, C NE NE Sec. 1-61n-38w. Loc.

Markham et al No. 1 Gaffney, SW SE SW Sec. 24-63-40w. R.R.

J. H. Everitt et al No. 1 Spring, SW SW SE Sec. 30-62-38w. T.D. 2,800 ft.; D.P. stk.; set whpstk.

Livingston County

Davis Bros. No. 1 Minning, SE SE NW Sec. 22-58-23w. Vng. 380 ft.

Mercer County

Geo. W. Moore No. 1 Castell, NE NE NE Sec. 32-65-24w. Loc.

Geo. W. Moore No. 1 Moss, NW SW SE Sec. 30-65-24w. Drlg. 501 ft.

Platte County

Berry Bros. No. 1 Rule, C SW SW Sec. 20-53-33w. Bvlle. 812-914 ft.; Burgess 958-61 ft.; Hntn. 1,442 ft.; drlg. Wlx. 1,790 ft.

Putnam County

E. F. Slater et al No. 1 Sayer, NE NW SE Sec. 14-65-18w. St. Peter sd. 1,275-1,525 ft.; showed fresh wtr.; Arb. L. 1,608 ft.; T.D. 1,685 ft.; D&A.

Schuyler County

T. E. Baldwin No. 1 May Johnson, NW NE NE Sec. 21-65-15w. Mch.

Shelby County

Wright & Turner No. 1 Turner, C NW NW Sec. 27-59n-8w (wildcat). Drlg. 315 ft.

Sullivan County

H. V. Eiwell No. 1 Taylor, SW NW NE Sec. 12-62-21w. Drlg. 437 ft., hd. L.

ARIZONA

Maricopa County

Sam F. Reaves No. 1 Fuqua, NW NW NE Sec. 34-1n-4w. Drlg. 2,305 ft.

Peoples G. & O. Co. No. 1 Gardner, SE Sec. 2-1n-3e. Spudded 18-in.; set csg. 130 ft.

Cochise County

Funk Dev. Co. No. 1 fee, SE NE Sec. 27-13s-30e. Cg. 6,596 ft., agglomerate and volcanic tuff; T.D. 6,613 ft. (last report.

Apache County

Rincon Drlg. Synd. No. 1 State, N½ NW NE Sec. 28-13n-27e. Drlg. 500 ft.

Pima County

R. W. Schenck No. 1 Boyce, Sec. 22-19s-17e. S.D. 400 ft.

Yavapai County

Ari-Copa Drlg. & Mining Co. No. 1 Puntenney, SW¼ Sec. 27-18n-3w. Drlg. 164 ft.

China Valley Oil Dev. Co. No. 1 State, Sec. 20-18n-2w. Drlg. 900 ft.

Yuma County

Yuma Valley O. & G. Co. No. 1 Musgrove, SW NW NE Sec. 11-11s-25w. Drlg. 300 ft.

ARKANSAS

Bradley County

Amerada Pet. Corp. No. 1 Bradley Lbr. Co., 660 ft. N. 460 ft. E. SW cor. SE NE Sec. 14-17-10. Drlg. sh. 4,125 ft.

Columbia County

Arkansas Fuel Oil Co. No. 1-C D. Glasgow, C NW SW Sec. 23-17-20. Drlg. sd.&sh. 6,547 ft.

Atlantic Ref. Co. No. 2 Foster, C SW NE Sec. 24-17-20. Drlg. L. 6,415 ft.

Atlantic Ref. Co. No. 1 Pine Woods Lbr. Co., C NE NE Sec. 16-18-22. Set 9⅝-in. csg. 4,102 ft.; D.S.T. failed 6,950-60 ft.; cd. 6 ft. soft med. grained oil sd. 7,135-61 ft.; D.S.T. 7,132-45 ft. failed; S.W. sd. 7,149-67 ft.; drlg. sd.&sh. 7,-331 ft.

Atlantic Ref. Co. No. 1 L. Spain, C SW SW Sec. 18-17-19. T. Bknr. 7,375 ft.; T. L. 7,470 ft.; T. por. 7,495 ft.; cg. 7,-497 ft.

Lion Oil Ref. Co. No. 1 Tissue, C SW NW Sec. 15-18-19. T. L. 8,023 ft.; T. por. 8,221 ft.; cg. 8,239 ft.

Mid-Continent Pet. Corp. No. 1 Foster, C NE NW Sec. 24-17-20. Drlg. hd. sd. &sh. 6,703 ft.

Oliphant Oil Co. No. 1 J. Jones, C SE SE Sec. 16-17-20. Set 13⅜-in. csg. 120 ft.; drlg. 7,435 ft.

Phillips Pet. No. 2 Longino, Sec. 15-17s-20w. Drlg. 2,747 ft.

Phillips Pet. Co. No. 1 Walthall, C SE SW Sec. 15-17-20. Drlg. sh. 2,700 ft.

Phillips Pet. Co. No. 2 Walthall, C SW SW Sec. 15-17-20. R.U.

Placid Oil No. 2 Couch, Sec. 19-17s-19w. Drlg. L. 4,202 ft.

Shell Pet. Corp. No. 2 Garrett, SW cor. NE SE Sec. 13-17-20. Drlg. L. 4,190 ft.

Southwood Oil Co. and Ark. Fuel Oil Co. No. 1 Jas. Johnson, C NE SE Sec. 22-17-20. R.U.

Southwood Oil Co. No. 2 Foster, C SE NE Sec. 24-17-20. Drlg. sh.&sd. 7,196 ft.

Southwood Oil Co. No. 1 D. Glasgow et al, C NE NE Sec. 22-17-20. Drlg. sh. 6,860 ft.

Southwood No. 2 H. F. Simmons, Sec. 22-17s-20w. Drlg. sh. 4,260 ft.

Southwood No. 2 R. E. Walthall, Sec. 22-17s-20w. Drlg. L.&sh. 4,775 ft.

Standard Oil No. 1 J. A. Foster, Sec. 19-17s-19w. Drlg. 3,543 ft.

Standard Oil Co. of La. No. 1 Nancy Johnson et al, 660 ft. SW cor. SW SE Sec. 9-16-22. R.U.

Twin City Syndicate No. 1 J. H. Hollensworth, 1,320 ft. E. 660 ft. S NW cor. SW¼ Sec. 31-17-18. Set 13⅜-in. csg. 148 ft.; cd. S.W. sd. 5,544-59 ft.; T. Cotton Valley 5,589 ft.; drlg. sh. 5,-659 ft.

G. H. Vaughn No. 2 J. Jones, C SE NE Sec. 21-17-20. T. Bknr. 7,442 ft.; T. L. 7,485 ft.; T. por. 7,547 ft.; set 6-in. csg. 7,543 ft.; W.O.C. 7,592 ft.

Craighead County

Tanmark, Inc., No. 1 R. M. Martin, Sec. 35-14-3e. Drlg. 2,635 ft.

Howard County

Wm. James No. 1 I. M. Brooks, 115 ft. W, 462 ft. N, SE cor. NW NW Sec. 2-8s-27w. Set 10-in. csg. 274 ft.

Lafayette County

East Texas Ref. Co. et al No. 1 Bodcaw Lbr. Co., C N½ NE NE Sec. 19-16-23. S.D. 3,135 ft.; rig repair.

E. Tex. Ref. Co. No. 1-B C. Warren, Sec. 24-16s-24w. Drlg. anhy. 3,276 ft.

Standard Oil Co. of La. No. 1 Eddy et al, 645 ft. E. 660 ft. N, SW cor. Sec. 7-16-22. Set 8⅝-in. csg. 2,053 ft.; T.D. 2,090 ft.; W.O.C.

Little River County

C. & M. Drlg. Co. No. 1 Strawn, SW cor. SE Sec. 20-10-32. Cd. 1,270-80 ft.; sh.& wtr. sd.; reported S.O. 1,365-70 ft.; 1,542-64 ft. sd. and 1,564-74 ft. sdy. L.; cor. T.D. 1,598 ft.; set 7-in. csg. 1,560 ft. (cor.); S.D.W.O. 4,591 ft.

Lonoke County

Cabot Drlg. Club, Inc., No. 1 Benson townsite, Sec. 18-4n-9w. Reported S.O. 1,400-50 ft.; hole clean; ran survey to 2,573 ft.; P.B. 1,470 ft.; set 4½-in. csg. 1,260 ft.; S.D.W.O. 2,760 ft.

W. L. Tedford No. 1 Anderson, Sec. 7-4n-9w. Rtng. 1,001 ft.

Miller County

Vacarro & Waterman No. 1 Westbrook, C SW SW Sec. 1-20-28. T. por. L. 6,-165 ft.; set 5½-in. csg. 6,164 ft.; acidized with 3,500 gal.; swbd. 2 B.P.H. until swbd. dry; flwd. 60 B.O.P.D.; T.D. 6,199 ft.; installing flow valves 6,192 ft.

Nevada County

Benedum & Trees Oil Co. No. 1 McRae, 150 ft. NE cor. SE NE Sec. 4-14-20. Set 7-in. csg. 2,098 ft.; T. sd. 2,099 ft.; D.S.T. 2,082-2,100 ft.; tstd. mud and oil in 20 min.; W.O.S.R.; 1,000 ft. O.I.H. and 400 ft. S.W.I.H.; T.D. 2,100 ft.

Ouachita County

J. E. Crosbie, Inc., No. 2 F. A. Laney, Sec. 36-15-16. Stk. 5⅛-in. 2,777 ft.; set 966 ft. at 2,777 ft.; T.D. 2,832 ft.; will reperf.

Phillips Pet. Co. No. 1 J. D. Reynolds, 330 ft. SE cor. SE NW Sec. 27-15-13. O.W.W.O.; O.T.D. 4,926 ft.; comp. as disc. well, Snow Hill field; perf. csg. 2,732-35½ ft., 2,728-31½ ft., 2,744-47½ ft., and 2,756-60 ft.; est. 2,300 ft. P.I. H., 1% oil; P.B. 2,770 ft.; set cmt. retainer 2,719 ft.; sqzd.; S.D.; W.O. 2,746 ft. (no report).

Pike County

Bruce E. Wallace No. 2-A Glenn Tilyeu, 320 ft. N, 330 ft. W SE cor. Sec. 26-8s-24w. Set 6-in. csg. 385 ft.; reported S.O. 400 ft.; bailing to test.

Union County—Schuler

Lion Oil Ref. Co. No. 1 S. Bessie, C S½ Lot 5, NW Sec. 7-18-7. 10¾-in. csg. 1,-935 ft.; T. Jones sd. 7,625 ft.; 7-in. 7,-695 ft.; T.D. 7,707 ft.

Lion Oil Ref. Co. No. 3 Clay, C S½ SE SW Sec. 12-18-18. Drlg. sh. 5,147 ft.

Lion Oil Ref. Co. No. 2-A Justiss, C S½ NW NE Sec. 13-18-18. Drlg. L. 3,819 ft.

Phillips Pet. Co. No. 9 Sewell, 330 ft. SW cor. NW Sec. 7-18-17. Drlg. sh. 375 ft.

Union County—Other

S. S. Alexander No. 1 J. P. Pickering, C NW NW SW Sec. 31-16-15. Cd. 2,151-52 ft.; soft por. sat. sd., salty taste; D.S.T. S.S.W.; cd. 2,152-56 ft.; rec. 2 ft. por. S.W. sd.; cd. 2,490-2,510 ft., gr. shaly sd. and hd. gr. sd.; W.O. 2,670 ft.

J. R. Lockhart No. 1 P. Jerry, 665 ft. W, 235 ft. S, NE cor. NE SE Sec. 15-17-14. T.D. 2,774 ft.; did not comp.; flwd. 2 days and went dead; cd. sat. Blossom sd. 2,768-74 ft.; set 5-in. csg. 2,760 ft.; tstg.

Bob Milam No. 1 Primm Est., SE cor. Lot 5, NE Sec. 1-16-16. Set 5-in. csg. 2,560 ft.; T.D. 2,579 ft.

NORTH MISSISSIPPI

Clarke County

Jeremiah L. Ryan et al No. 1 M. Stodine, 500 ft. SE cor. Sec. 29-2n-14e S.D. 1,502 ft.

Humphreys County

Union Prod. Co. No. 1 C. B. Box, Sec. 15-14n-4w. Drlg. 4,412 ft.; no report.

Lafayette County

Adams O. & G. Co. No. 1 Lewellen, Sec 9-10s-1w. Drlg. sh. 1,020 ft.; no report.

Prentiss County

Home Dev. Co. No. 1 Allen, Sec. 8-7s-8e. Drlg. L. 875 ft.; no report.

Simpson County

Cleve Love No. 1 N. E. Garner, SW cor. SW NE Sec. 1-10n-17w. S.D. 3,145 ft.

LOUISIANA

N. LOUISIANA WILDCATS

Bienville Parish

Ark. La. Gas Co. No. 2 Gayoso, 660 ft. SW cor. SE Sec. 14-16-10. T. Tr. Pk. 5,432 ft.; D.S.T. 5,796-5,805 ft. tstd. dry in 26 min.; set 8⅝-in. csg. 6,300 ft.; T.D. 8,319 ft.; set csg.; per. 8,285-8,314 ft.; flwd. est. 2,000,000 cu. ft. gas and sprayed S.W.; acdzd. with 6,000 gal. and tstd. est. 4,000,000 cu. ft. gas and spray S.W.; perf. 8,110-70 ft. and 8,-306-12 ft.; flwd. 39 bbl. dist., 16 bbl. S.W. and 1,500,000 cu. ft. gas on ¼-in. ck.; acdzd. with 2,000 gal. and tstd. same; R.P. 2,818 lb.; drlg. sh.&L. 8,-407 ft.; D.S.T. 8,310-8,404 ft.; tstd. 750 ft. mud cut with gas in 1 hr. 47 min.; T.D. 8,532 ft.; S.G.; tstg.

Ark. La. Gas Co. No. 1 Long Bell Mineral Co., NW cor. NW¼ Sec. 14-16n-10w. Drlg. sh. 3,907 ft.

Hunt Oil Co. No. 1 Hodge-Hunt Lbr. Co., 300 ft. E, C Sec. 36-17n-6w. Drlg. sd.& sh. 1,010 ft.

Bossier Parish

H. M. Harrell et al No. 1 Thompson Unit, 70 ft. NW, C SE Sec. 20-17-11. Set 5½-in. csg. approx. 5,700 ft.; W. O.C.

Union Prod. Co. No. 1 Lincoln Ld. Co., 1,320 ft. W, C Sec. 17-16-10. Drlg. sh. 948 ft.

Caddo Parish

Frank G. Bandeln No. 1 Caddo Levee Bd., 150 ft. S, 350 ft. W. NE cor. NW SE Sec. 26-21-16. W.O.S.R. 947 ft.

J. M. Buckler No. 1 Barrett et al, 777 ft. W, 150 ft. S, NE cor. Sec. 11-20-16. R.U.

Burton & Harlan No. 2-A Perche, 500 ft. S, 1,121 ft. E. C Sec. 1-20-16. R.U.

East Texas Ref. Co. No. 1 Atkins, SW SE Sec. 5-23n-13w. Set 7-in. csg. T.D. 6,137 ft.

East Texas Ref. Co. No. 2 U. S. Govt., Sec. 4-23n-15w. Set 7-in. csg. 6,131 ft.; W.O.C.

W. C. Feazel and Eagle Prod. Corp. No. 1 Caddo Mercantile Co., 2,310 ft. W, 955 ft. S, NE cor. Sec. 5-23-15. Drlg. L. 5,921 ft.

H. Fotiades No. 1 Bath, S of NW cor. Sec. 3-17n-15w. Drlg. L.&sh. 4,027 ft.

Harry Fotiades No. 1 Furman, 393 ft. S, 870 ft. E NW cor. NE Sec. 35-18-14. Set surf. csg. 297 ft.; drlg. sh.&L. 4,-785 ft.

Hamilton & Stone No. 1 Atlanta, 500 ft. S, 244 ft. W, NE cor. NW Sec. 2-29-16. Set 6-in. csg. 1,701 ft.; T.D. 1,701 ft.; W.O.S.R.

A. R. Hancock No. 4 Standard Oil Co. Sec. 18-21n-15w. Set 5⅞-in. csg. 1,040 ft.; W.O.C.

J. M. Harper No. 1 Waller, 453 ft. E. 510 ft. S, NW cor. Sec. 28-18-14. Set 9⅝-in. csg. 1,370 ft.; W.O.C. 3,886 ft.

Hurricane Pet. Co. No. 2 De Soto Corp., W of NE cor. Sec. 26-18n-14w. Drlg. sh. 3,050 ft.

L. & A. Oil Co. No. 3 Burton, 1,163 ft. E. 979 ft. S, NW cor. Sec. 7-20-15. Set 6⅝-in. csg. 1,339 ft.; W.O.C.

Leisk & Fotiades No. 1 Sokolski, S of NE Sec. 35-18n-14w. Drlg. ch. rk. 2,457 ft.

Linham & Jones No. 3 fee, E of NW cor. Sec. 21-20n-15w. Cg. 2,240 ft.

McDonald & Campbell No. 12 Youree, C SW SE Sec. 13-20-15. W.O.S.R. 2,269 ft.

W. M. McDonnell No. 2 Burton, 7-20n-15w. 6-in. csg. 1,340 ft.; W.O.C. 1,356 ft.

J. Ober & Sons No. 2 fee, 920 ft. N. 200 ft. W, C Sec. 36-2-16. W.O.S.R. 2,275 ft.

Oblinger & Ritter No. 3 Boisseau, 1,220 ft. N, 1,310 ft. E, SW cor. SE Sec. 34-21-16. S.D. 820 ft.

Red Iron Drlg. Co. No. 1 Agura, 1,909 ft. S, 715 ft. E. NW cor. Sec. 25-18-14. 9⅝-in. csg. 1,462 ft.; T. por. L. 5,-557 ft.; rng. csg. 5,572 ft.

John Schmidt No. 2 Sproull, 970 ft. N, 570 ft. W, SE cor. Sec. 32-20-16. Tstd. S.W. 1,654 ft.; W.O.

Seymour Oil Co. No. 1 Hughes et al, 330 ft. NE cor. NW Sec. 15-20-15. Prep. set csg. 2,204 ft.

Stanolind O. & G. Co. No. 1, 131 Dillon Hrs., C SE NE Sec. 14-21-15. Set 16-in. csg. 494 ft.; 10¾-in. csg. 4,520 ft.; cd. oil sd. 3,912-20 ft.; 3,922-26 ft., and 3,941-45 ft.; D.S.T. 3,900-47 ft.; tstd. 170 ft. mud; S.O. 400 ft. S.W. 7 min.; ⅝-in. ck.; cleaned hole; drlg. ahd. 5,-511 ft.

Joe Strahan No. 1-A Stiles, 3,658 ft. N, 1,050 ft. E, SW cor. Sec. 29-21-16. W.O.C. 2,404 ft.

Joe G. Strahan No. 2-A Stiles, 4,165 ft. N, 472 ft. E, SW cor. Sec. 29-21-16. W.O.C. 2,400 ft.
Terrill & Horton No. 1 Smith, 200 ft. S and W, C Sec. 36-21-16. R.U.
Texas Co. No. 15-B Noel fee, 1,100 ft. S, 1,051 ft. E, NW cor. Sec. 14-21-15. Drlg. 50 ft.

Caldwell Parish

Critchett & Woods (formerly E. T. Oakes) No. 1 Kyles, NE cor. SW NE Sec. 18-11-3e. S.D.O. 3,003 ft.

Catahoula Parish

Ross Morel et al No. 1 Ballard Est., 330 ft. SE cor. SE SW Sec. 8-9n-7e. Cg. 2,840 ft.

Claiborne Parish

E. T. Oakes et al No. 1 Lloyd, C SW SW Sec. 10-20-5. R.U.
Union Prod. Co. No. 3 T. Durrett, 505 ft. N, 333 ft. E, C Sec. 5-19-5, T. anhy. 3,958 ft.; drlg. sh.&L. 4,901 ft.

De Soto Parish

Daniel Murray No. 1 Russell, 50 ft. N, 500 ft. W, SE cor. NE NW Sec. 12-11-16; O.W.D.D.; O.T.D. 2,046 ft.; S.D.; W.O.; D.S. 2,395 ft.
Roosth & Genecov Prod. Co. No. 1 Woolums, 990 ft. S, 330 ft. E NW cor. SW¼ Sec. 29-12-12. S.D. 2,700 ft.
C. H. Tuttle No. 2-A Wemple, E NW cor. SW¼ Sec. 14-12n-11w. R.U.

Grant Parish

R. L. Arnold No. 1 Swope, Sec. 16-9n-1e. W.O.C. 80 ft.
Longwood O. & G. Co. No. 1 K. B. Thompson, Sec. 5-5n-3w. Drlg. 67 ft.

Morehouse Parish

Union Prod. Co. No. 1-A Tensas-Delta, 1,894 ft. W, 1,584 ft. S, NE cor. SE Sec. 8-22-4. R.U.

Sabine Parish

Ed Bailey No. 1 Hale, 330 ft. NW cor. NE NW Sec. 6-7-12. W.O.C. 60 ft.
Geo. Ellis No. 1 Walker, 500 ft. NW cor. NW SE Sec. 8-4-12. Set 12½-in. csg. 276 ft.; reported S.O. 2,180 ft. and 2,263-65 ft.; rng. csg. 2,269 ft.; cd. sdy. sh. 2,265-69 ft.; set 7-in. csg. 2,250 ft.; D.S.T. sd. 2,797-2,807 ft.; rec. 1,000 ft. S.W.; D.S. stk.; T.D. 2,817 ft.; (cor.).
M.C.M. Drlg. No. 1 Sipulvado, Sec. 4-7n-13w. R.U.
Okla.-Tex. Tr. No. 2 Frost Lbr. Ind., 230 ft. SE cor. NE SW Sec. 22-9-13. Set 12½-in. csg. 84 ft.; 8-in. csg. 1,568 ft.; T. ch. rk. 1,568 ft.; T.D. 1,820 ft.; flwg. est. 10 B.P.D. through cracked valve.
K. R. Phillips No. 1 Craig, 335 ft. S, 330 ft. E NW cor., SE Sec. 22-9-13. 5-in. csg. 1,568 ft.; W.O.C. 1,568 ft.
Potter et al No. 2 Ebarb, NW cor. NE SE Sec. 4-7n-13w. Drlg. ch. rk. 2,110 ft.
W. M. Quick No. 1 Sabine, SE cor. NE NE Sec. 8-7-13. Arng. test 3,547 ft.
H. M. Sneed No. 1 Leone, SW cor. NW SE Sec. 8-7-13. T.D. 1,962 ft.; drlg. 2,061 ft.
Spier & Chestnut No. 1 De Soto Corp., NW cor. SE NE Sec. 27-10n-13w. 7-in. csg. 1,426 ft.; tstd. S.G. 1,932 ft.
Sutton-Zwolle Oil No. 4 Bowman-Hicks Lbr., NW cor. NW SE Sec. 24-7n-14w. 8⅝-in. csg. 2,125 ft.; T.D. 2,130 ft.
A. Tillman No. 1 Ritter, 400 ft. NE cor. SE SW Sec. 26-8-12. Set 7-in. csg. 2,255 ft.; S.D. 2,400 ft.
J. A. Williams No. 1 Long Bell Lbr. Co., 250 ft. S, 550 ft. W. C Sec. 33-8-14. T. ch. 2,097 ft.; used 2,000 gal. acd. and tstd. dry; S.D. 2,247 ft.

Webster Parish

Geo. Barham No. 1 A. J. Hodges, 1,916 ft. N, 728 ft. E, SW cor. Sec. 23-21-10. O.T.D. 4,574 ft.; jnkd. hole; skdd. 75 ft. N and spdd. new hole; 9⅝-in. csg. 1,275 ft.; T. Tr. Pk. 5,524 ft.; Hillwy. sd. 5,527 ft. (oil); set 5½-in. csg. 5,799 ft.; T.D. 5,839 ft.
Hunt Oil Co. No. 1 Coffee, C SW NW Sec. 19-21-9. T. Tr. Pk. 5,638 ft.; no Hillwy. sd.; drlg. sh. 6,870 ft.
Hunt Oil Co. No. 30 Hope, 100 ft. W. C NE SW Sec. 30-21-10. T. "D" sd. 8,545 ft.; S.S.O.; T. Bdw. sd. 8,639 ft.; oil; cg. sd. 8,668 ft.
Hunt Oil Co. No. 2 E. L. Stewart, Sec. 32-21n-10w. 13⅜-in. csg. 662 ft.
Magnolia Pet. Co. No. 1 Roseberry Unit, 20 ft. N and W. C SE Sec. 29-23-9. Drlg. sh.&sd. 8,383 ft.
Ohio Oil Co. No. 6 Bodcaw, Acct. 4, 660 ft. NE cor. NW Sec. 13-21-10. Holloway sd. 5,773-79 ft.; 9⅝-in. csg. 5,767 ft.; T.D. 5,855 ft.; flwd. 4 B.O.P.H. 5,773 ft.; tstd. dry; S.S.O. 5,773-79 ft.; abd.
Oliphant Oil Corp. No. 2-A Hodges, 660 ft. W, 460 ft. S, NE cor. Sec. 3-20-10. T. Tr. Pk. 5,987 ft.; no Hillwy. sd.; drlg. sdy. sh. 6,858 ft.
Stanolind O. & G. Co. No. 2 Pardee, Sec. 25-21-10. Set 9⅝-in. csg. 5,708 ft.; T.D. 6,000 ft.
Stanolind O. & G. Co. No. 3 Pardee, C SW SE Sec. 35-21-10. Set 13⅜-in. csg. 632 ft., W.O.C.

SOUTH LOUISIANA FIELDS

Abbeville—Vermilion Parish

Continental Oil Co. No. 1 David Meaux, Sec. 9-12s-3e. Drlg. sh. 8,099 ft.
Continental Oil Co. No. 1 Franciol, Sec. 67-12s-3e. Drlg.

Bancroft—Beauregard Parish

Republic Prod. Co. No. 9 Columbia Ld. & Tbr. Co., Sec. 15-6s-13w. Loc.
Republic Prod. Co. No. 7 Lutcher Moore, Sec. 14-6s-13w. T.D. 8,000 ft.; 5½-in. csg. 7,963 ft.; oil sd. 7,901-08 ft.; perf. csg. 7,898-7,900 ft.; tstd. S.W.; perf. csg. 7,896-98 ft.; tstd. oil and S.W.; perf. csg. 7,639-41 ft.; flwd. 19 bbl. 43.9-grav. oil first 2 hrs.; ¼-in. ck.
Republic Prod. Co. No. 8 Lutcher Moore Lbr. Co., Sec. 14-6s-13w. T.D. 7,328 ft.; 5½-in. csg. 7,315 ft.; I.P. 18 bbl. first 2 hrs.; ¼-in. ck.; T.P. 1,425 lb.
Republic Prod. Co. No. 9 Lutcher Moore, Sec. 15-6s-13w. Loc.
Republic Prod. Co. No. 1 Nettie Smith Sec. 15-6s-13w. Drlg. sh. 1,472 ft.

Bateman Lake—St. Mary Parish

Texas Co. No. 2 State-Bateman Lake, Sec. 21-16s-12e. 13⅜-in. csg. 1,700 ft.; T.D. 9,453 ft.; sdtrkd. 6,880 ft.; drld. into old hole; P.B. 6,580 ft.; sdtrkd.; T.D. 9,156 ft.; P.B.; sdtrkd.; drlg. sh. &L. 10,485 ft.

Baton Rouge—East Baton Rouge Parish

Geo. Echols No. 1 J. Gebelin, Sec. 66-7s-1w. Drlg. sh. 6,410 ft.
M. T. Grubb et al No. 1 College Town Com., Sec. 67-7s-1w. Drlg. 2,630 ft.
Wm. Hells No. 3 A.L.S. 4, Sec. 67-7s-1w. R.U.
Wm. Hells No. 3-D Duplantier, Sec. 66-7s-1w. Top sd. 6,455 ft.; cg. sd. 6,466 ft.
Wm. Hells No. 1 Farris-Middleton, Sec. 66-7s-1w. Drlg. sh. 3,630 ft.
Wm. Hells No. 3 Nelson, Sec. 36-7s-1w. Drlg. 2,787 ft.
Lisbon-Iberia Oil Co. No. 3 Duplantier, Sec. 66-7s-1w. T.D. 6,367 ft.; fsg.
T. G. Markley-Crosby Drlg. Co. No. 2 Knox et al, Sec. 66-7s-1w. Drlg. 6,412 ft.
Texas Canadian Oil Co. No. 1 C. J. Bogan, Sec. 68-7s-1w. Drlg. sh. 5,437 ft.

Bay St. Elaine—Terrebonne Parish

Texas Co. No. 3-B State-Bay, Sec. 13-22s-17e. T.D. 10,513 ft.; tried to blow out; P.B. 6,904 ft.; set retainer 6,392 ft.; prep. to perf.
Texas Co. No. 19 State-Bay St. Elaine, Sec. 18-22s-18e. Loc.

Bayou Blue—Iberville Parish

Humble O. & R. Co. No. 11 Wilberts, Sec. 67-9s-11e. Loc.

Bayou des Allemands—St. Charles Parish

Amerada Pet. Corp. No. 4 St. Charles Ld. Co., Sec. 13-15s-2e. Loc.

De Large—Terrebonne Parish

Fohs Oil Co. No. 1 Buckley-Mahler, Sec. 25-19s-16e. 13⅜-in. csg. 3,380 ft.; 9⅝-in. csg. 10,058 ft.; T.D. 12,942 ft.; fsg.

Caillou Island—Terrebonne Parish

Texas Co. No. 29 State, Sec. 17-23s-20e. Rig.
Texas Co. No. 56 State, Sec. 20-23s-20e. Drlg. sh. 4,812 ft.

Cameron Meadows—Cameron

Burton-Sutton Oil Co. No. 26 Sch. Ld., Sec. 16-14s-13w. T.D. 2,485 ft.; 13⅜-in. csg. 2,465 ft.; T.D. 6,564 ft.; P.B.; sdtrkd.; T. salt 8,059 ft.; T.D. 8,065 ft.; P.B. to 2,845 ft.; sdtrkd.; T.D. 7,172 ft.; fsg.; set whpstk. 7,082 ft.; stk. D.S.; P.B.; sdtrkd.; T.D. 3,402 ft.; T.A.
Magnolia Pet. Co. No. 25 Cameron Meadows, Sec. 21-14s-13e. R.U.

Chacahoula—La Fourche Parish

Sun Oil Co. No. 1 Cypress, Sec. 75-15s-15e. Bldg. drk.
Sun Oil Co. No. 4 Delbert Stark and Brown Cypress Co., Sec. 70-15s-15e. T.D. 7,794 ft.; P.B. 6,764 ft.; sdtrkd.; T.D. 8,268 ft.; stk. D.S.; shot at 8,196 ft.; P.B. 7,842 ft.; sdtrkd. 7,642 ft.; T. D. 8,260 ft.; 9⅝-in. csg. 8,260 ft.; T.D. 8,292 ft.; cleaned hole; found csg. collapsed; recmtd. csg.; rmg. 7,176 ft.; found leak in csg.; recmtd.; P.B. 7,960 ft.; sdtrkd. 8,249 ft.; P.B. 2,200 ft.; sdtrkd.; drlg. sh. 6,410 ft.
Sun Oil Co. No. 2 Dodge Sunberry, Sec. 65-15s-15e. Driving piling.

Chalkley Field—Cameron Parish

Humble O. & R. Co. No. 4 Sweet Lake Ld. & O. Co., Sec. 7-12s-6w. Drlg. clay 675 ft.
Shell Oil Co., Inc., No. 2 Hansen, Sec. 21-12s-6w. Drlg. sh. 9,272 ft.

Charenton—St. Mary Parish

Fifteen Oil Co. No. 1 T. Brulation, Sec. 19-13s-10e. 7-in. csg. 8,509 ft.; T.D. 10,710 ft.; abd.
Fifteen Oil Co. No. 2 State, Sec. 31-13s-10e. R.U.
Pan American Prod. Co. No. 1 Achee, Sec. 21-13s-9e. Loc.
Pan American Prod. Co. No. 14 Lews Realty Co., Sec. 30-13s-10e. T.D. 7,405 ft.; P.B. 6,950 ft.; sdtrkd.; T.D. 8,000 ft.; P.B. 7,170 ft.; perf. csg. 7,154-65 ft.; tstg.
Pan American Prod. Co. No. 7 Robichaux, Sec. 11-13s-9e. T.D. 1,051 ft.; 7-in. 1,035 ft.; I.P. 5 B.P.D.; pmpg.

Cheneyville—Rapides Parish

Gulf Oil Corp. No. 1 Bickerstaff, Sec. 4-18s-2e. Loc.
Gulf Oil Corp. No. 1 M. B. Pope, Sec. 4-1s-2e. Drlg. sh. 8,143 ft.
Gulf Oil Corp. No. 1 C. U. Pope, Sec. 4-18-2e. Loc.
Texas Canadian Oil Co. No. 2 Pope, Sec. 56-1s-2e. T.D. 5,845 ft.; P.B. 1,650 ft.; sdtrkd. 1,810 ft.; T.D. 5,805 ft.; abd.

Choctaw—Iberville Parish

Standard of La. No. 1 Wilbert, Sec. 53-9s-11e. Loc.

Convent—St. James Parish

Continental Oil Co. No. 2 Colonial Sugars, Inc., Sec. 50-12s-4e. 18⅝-in. csg. 270 ft.; drlg. sh. 7,035 ft.

Creole—Cameron Parish

Superior Oil Co. No. 7 State, Gulf of Mexico, T.D. 6,713 ft.; oil sd. topped 6,696 ft.; backed off D.S.; P.B. and sdtrkd. 1,278 ft.; drlg. clay 1,415 ft.

Darrow—Ascension Parish

Humble O. & R. Co. No. 22 Community, Sec. 32-10s-2e. Drlg. sh. 5,119 ft.
Kiva Oil Co. No. 1 Duplessis, Sec. 68-10s-2w. S.D. 2,523 ft.

Dog Lake—Terrebonne Parish

Texas Co. No. 5 Dog Lake, Sec. 5-22s-16e. T.D. 7,533 ft.; perf. csg. 6,770-6,803 ft.; tstg.
Texas Co. No. 23 State, Sec. 5-22s-16e. Drlg. sdy. sh. 4,610 ft.

Edgerly Field—Calcasieu Parish

J. G. Sutton Oil Co. No. 1 Reed, Sec. 29-9s-11w. Drlg. sh. 6,205 ft.

Eola—Avoyelles Parish

Amerada Pet. Corp. No. 1 Avoyelles Bnk. & Tr. Co., Sec. 5-2s-3e. Top Wilcox 8,522 ft.; T.D. 8,585 ft.; 5½-in. csg. on bttm.; perf. csg. 8,530-70 ft.; I.P. 238 bbl. in 14 hrs.; ¼-in. ck.
Amerada Pet. Corp. No. 1 Wm. Glaye, Sec. 6-2s-3e. Loc.
Amerada Pet. Corp. No. 1 Haas Inv. Co., Sec. 10-2s-2e. Drlg. sh. 8,164 ft.
Amerada Pet. Corp. No. 2 Mrs. C. B. Machine, Sec. 6-2s-3e. Loc.
Amerada Pet. Corp. No. 1 Merchants & Planters Bnk., Sec. 41-1s-3e. Loc.
Amerada Pet. Corp. No. 1 Robert Irion, Sur., Sec. 6-2s-3e. 9⅝-in. csg. 1,462 ft.; T.D. 8,684 ft.; 5½-in. csg. 8,601 ft.; T. Wlx. 8,337 ft.; perf. csg. 8,325-8,400 ft.; I.P. 746 B.P.D.; ¼-in. ck.
Amerada Pet. Corp. No. 1 Stokes, Sec. 41-1s-3e. Drlg. sh.&L. 7,265 ft.
Amerada Pet. Corp. No. 1 R. L. Whitlow, Sec. 6-2s-3e. Drlg. sh. 300 ft.
W. C. Feazel No. 1 Lelia Keller, Sec. 7-2s-1e. T.D. 8,500 ft.; 5½-in. csg. on bttm.
Gulf Expln. Co. No. 5 Samuel Haas Est., Sec. 8-2s-3e. T.D. 7,006 ft.; P.B. 6,450 ft.; crooked hole; sdtrkd.; T.D. 8,584 ft.; 5½-in. csg. 8,584 ft.; perf. csg. 8,560-80 ft.; flwd. S.W.; went dead; P.B. 8,581 ft.; pull tbg.
Geo. Lilly et al No. 1 Dent, Sec. 1-2s-2e. Loc.
Geo. E. Lilly et al No. 1 Haas Inv. Co., Sec. 1-2s-2e. 10¾-in. csg. 1,500 ft.; drlg. sh. 7,400 ft.
Pomo Prod. Co. No. 2 Sentell, Sec. 8-2s-3e. T.D. 8,573 ft.; 5½-in. csg. 8,572 ft.
Sid Richardson No. 1 Sam Hasse, Sec. 1-2s-2e. Drlg. sh. 6,935 ft.
Sid Richardson No. 3 State-Bayou Bouef, Sec. 6-2s-3e. R.U.
Sid Richardson No. 2 State Bayou Boenf, Sec. 7-2s-3e. T.D. 7,059 ft.; P.B.; sdtrkd.; drlg. sh.&L. 6,016 ft.

Fausse Point—Iberia Parish

Texas Co. No. 6 State, Twp. 11s-8e. Drk.

Garden Island—Plaquemines Parish

Texas Co. No. 35 State, Sec. 38-23s-33e. Drlg. sdy. sh. 4,505 ft.

Golden Meadows—La Fourche Parish

Wm. Hells-Danciger O. & R. Co. No. 1 Sch. Bd., Sec. 12-19s-22e. Cg. sd. and shells 2,662 ft.; D.S.T. 2,639-57 ft.; rec. 186 ft. oil, 10 ft. oil and wtr.; no report.
Geo. Lilly et al No. 1 Jack Collins, Sec. 12-19s-22e. T.D. 8,897 ft.; 7-in. csg. 8,102 ft.; oil sd. 5,150-73 ft.; tstg.
M. H. Marr and R. A. Bristol No. 1 Church property, Sec. 2-19s-22e. Drlg. sh. 7,312 ft.
M. H. Marr & G. H. Vaughn No. 1 Adam Terrebonne, Sec. 9-19s-22e. Drk.
M. H. Marr and G. H. Vaughn No. 1 B. & D. Unit, Sec. 12-19s-22e. 10¾-in. csg. 2,301 ft.; S.D. 9,050 ft.; wash to bttm.
Martex Pet. Corp. No. 2 Falgout Holding Co., Sec. 9-19s-22e. 10¾-in. csg. 2,401 ft.; drlg. sh. 4,412 ft.
St. Mary Oil Co. No. 1 Choust Unit, Sec. 12-19s-22e. S.D. 7,266 ft.
Taylor Fithian et al No. 1 Etienne Perrin, Sec. 12-19s-22e. R.U.
Terouche Oil Co. No. 1 D. B. Cheramie, Sec. 12-19s-22e. T.D. 6,230 ft.; 7-in. csg. 4,466 ft.; perf. csg. 4,466-72 ft.; tstg.
Texas Co. No. 2 Golden Meadows, Sec. 78-19s-21e. R.U.
Texas Co. No. 2 La Terre, Sec. 6-20s-22e. Drlg. sdy. sh. 6,812 ft.
Texas Co. No. 2 State-Catfish Lake, Sec. 2-20-21e. Drlg. sh.&L. 9,560 ft.
Texas Co. No. 3 State-Catfish Lake, Sec. 76-19s-21e. Loc.

Grand Bay—Plaquemines Parish

Gulf Oil Corp. No. 6-A Grand Prairie Lv. Dist., Sec. 17-20s-10e. Drlg. sh. 2,720 ft.
Gulf Oil Corp. No. 2 State, Sec. 6-20s-19e. 9⅝-in. csg. 9,431 ft.; T.D. 10,300 ft.; 7-in. csg. 10,299 ft.; perf. 9,275-90 ft.; flowed oil and S.W.; perf. csg. 8,980-90 ft.; tstd. dist.

Grand Lake—Cameron Parish

Amerada Pet. Corp. No. 1 Mallard Bay-State, Sec. 12-13s-4w. Driving piling.
Superior Oil Co. No. 2 State, Twp. 13s-4w. Drlg. sh. 7,800 ft.

Hackberry—Cameron Parish

Gulf Oil Corp. No. 25-A Erwin, Sec. 13-12s-10w. Drk.
Stanolind O. & G. Co. No. 28-A Gulf fee, Sec. 30-12s-10w. T.D. 7,037 ft.; P.B. 5,704 ft.; sdtrkd. 5,704 ft.; drlg. sh. 5,735 ft.
Superior Oil Co. No. 1 R. Vincent, Sec. 31-12s-10w. Drlg. sd.&sh. 7,476 ft.
Union Sulphur Co. No. 12 Doiron, Sec. 27-12s-10w. T.D. 8,064 ft.; P.B.; sdtrkd.; T.D. 7,570 ft.; fsg.
Union Sulphur Co. No. 1 Josephine O'Quinn, Sec. 37-12s-10w. T.D. 6,927 ft.; sdtrkd.; 7-in. csg. 8,014 ft.; T.S. 8,220 ft.; T.D. 9,665 ft.; P.B. 7,706 ft.; perf. csg. 7,696-7,704 ft.; tstd. mud and S.W.; perf. csg. 7,583-7,603 ft.; I.P. 288 B.P.D.; ¼-in. ck.

Horseshoe Bayou

Texas Co. No. 2 St. Mary Parish Ld. Co., Sec. 37-17s-9e. 7⅝-in. csg. 10,858 ft.; drld. out to 10,883 ft.; I.P. 360 B.P.D.; 10/64-in. ck.

Jefferson Island—Iberia Parish

Phillips Pet. Co. No. 1 Bresaux, Sec. 41 12s-5e. T.D. 8,461 ft.; P.B.; sdtrkd.; drilled to T.D. 6,174 ft.; stuck D.S.; prep. to sdtrk. 6,000 ft.
Texas Co. No. 2 State-Lake Peigneur, Twp. 12s-5w. T. salt 7,419 ft.; T.D. 7,437 ft.; P.B. 6,292 ft.; P.B. and sidetracked; T.D. 7,964 ft.; salt; sdtrk. 6,322 ft.; drlg. sh.&L. 6,496 ft.

Jennings—Acadia Parish

Carter-Perrin et al No. 2 Arpent, Sec. 47-9s-2w. T.D. 1,798 ft.; 7-in. csg. 1,775 ft.; W.O.S.R.
Carter-Perrin & Brian No. 2 Valle, Sec.

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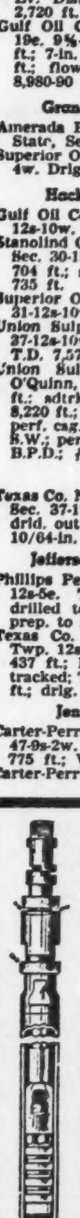

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47-9s-2w. T.D. 1,793 ft.; run 7-in. csg.
Illes Pet. Co. No. 4 Synd., Sec. 41-9s-2w. 7-in. csg. 1,535 ft.; T.D. 1,740 ft.
Guaranty Oil Co. No. 3 Houissere Latrelle, Sec. 47-9s-2w. T.D. 1,715 ft.; 7-in. csg. 1,700 ft.; drk. blew down.
St. Mary Oil Co. No. 1 Gulf fee, Sec. 45-9s-2w. Drlg. sd.&sh. 1,180 ft.
Shell Oil Co., Inc., No. 7 Conover, Sec. 40-9s-2w. T.D. 5,381 ft.
Stanolind O. & G. Co. No. 114 Crowley Oil & Mineral Co., Sec. 48-9s-2w. T.D. 3,755 ft.; P.B. 1,293 ft.; P.B. 1,900 ft., sdtrkd.; T.D. 4,581 ft.; 10¾-in. csg. 4,578 ft.; cg. sh. 7,189 ft.
Superior Oil Co. No. 4 Morest, Sec. 41-9s-2w. T.D. 7,098 ft.; 5½-in. csg. 6,978 ft.; perf. csg. 6,852-6,964 ft.; tstg.

Lafitte—Jefferson Parish

Texas Co. No. 13 Lafitte, Sec. 17-17s-24e. Cg. 9,420 ft.
Texas Co. No. 14 Lafitte, Sec. 20-17s-24e. Loc.
Texas Co. No. 2-B Madison Realty Co., Sec. 19-17s-24e. Drlg. sh. 5,720 ft.

Lake Hermitage—Plaquemines Parish

Gulf Oil Corp. No. 10 La Fourche Basin Levee Dist., Sec. 2-18-25e. Drlg. sh. 5,630 ft.

Lake Long—La Fourche Parish

Fohs Oil Co. No. 9 State, 600 ft. S of No. 6 State in lake, Twp. 17s-19e. Cd. sd. & sh. showing oil 9,361-97 ft.; T.D. 9,427 ft.; run 7-in. csg.

Leeville—La Fourche Parish

Texas Co. No. 71 L.L.&E., Sec. 27-21s-22e. 10¾-in. csg. 1,141 ft.; drlg. sh. 6,712 ft.

Lake Mongoulois—St. Martin Parish

Texas Co. No. 7 State, Sec. 10-10s-9e. Cg. sh. 9,974 ft.

Lake Pelto—Terrebonne Parish

Texas Co. No. 26 State, Sec. 18-23s-18e. Cg. sh. 5,766 ft.

Lirette—Terrebonne Parish

Humble O. & R. Co. No. 1 W. E. Mont, Sec. 32-19s-19e. Loc.
Humble O. & R. Co. No. 3 Laterre Land Co., Sec. 32-19s-19e. Drlg. sh. 7,820 ft.

New Iberia—Iberia Parish

Canal Oil Co. No. 13 Bernard, Sec. 54-12s-7e. Drlg. sd.&sh. 3,474 ft.
Wm. Helis No. 6 Subatier, Sec. 53-12s-2e. T.D. 2,451 ft., salt; P.B. 2,204 ft.; abd.
Wm. Helis No. 7 J. E. Schwing, Sec. 56-12s-7e. Drlg. sd.&L. 5,685 ft.
Texas Co. No. 2 Bryan, Sec. 25-12s-7e. R.U.
Texas Co. No. 1 Frances Compton, Sec. 71-12s-7e. Drlg. sdy. L. 7,942 ft.
Texas Co. No. 1 Anna B. Schwing, Sec. 71-12s-7e. Drlg. sh.&L. 7,955 ft.

North Crowley—Acadia Parish

Humble O. & R. Co. No. 2 Staker, Sec. 33-8s-1e. Drlg. sh. 7,170 ft.

North Tepetate—Acadia Parish

Atlantic Ref. Co. No. 5 Klumpp, Sec. 7-7s-1w. Drlg. sh. 8,900 ft.; run 7-in. csg.

Port Barre—St. Landry Parish

Pan American Prod. Co. No. 7 Cormier, Sec. 4-6s-5e. Drlg. sh. 1,125 ft.
Pan American Prod. Co. No. 8 Cormier, Sec. 4-6s-5e. R.U.
Pan American Prod. Co. No. 3 Haas & Hirsch, Sec. 4-6s-5e. T.D. 6,932 ft.; sdtrkd.; drlg. sh. 6,858 ft.
Smith & McDannald No. 1 S. W. Futral, Sec. 20-6s-5e. T.D. 4,841 ft., salt; P.B.; prep. to sdtrk.; T. salt 4,832 ft.; side-tracked; T.D. 4,160 ft.; stk. D.S.; side-tracked at 3,000 ft.; drld. to 4,160 ft.; stk. D.S.; P.B. 3,025 ft.; sdtrkd.; P.B. 1,800 ft.; sdtrkd.; T.D. 4,160 ft.; fsg.
Y. D. Spill No. 1 Gaudet, Sec. 4-6s-5e. S.D. 4,700 ft.

Potash—Plaquemines Parish

Humble O. & R. Co. No. 39 Orleans Lve. Bd., Sec. 13-8s-15e. 16-in. csg. 244 ft.; T.D. 4,548 ft.; stk. D.S.; repair rig.

Quarantine Bay—Plaquemines Parish

Gulf Oil Corp. No. 3-A Plaquemines Ld. Co., Sec. 7-19s-17e. Loc.
Gulf Oil Corp. No. 9 State QQ, Sec. 18-19s-17e. Loc.
Gulf Oil Corp. No. 5 State, Sec. 17-19s-17e. Loc.

Raceland—La Fourche Parish

Amerada Pet. Corp. No. 1 Godchaux Sugars, Inc., Sec. 34-15s-19e. 18⅝-in. 11,312 ft.; T.A.

Sorrento—Ascension Parish

Pan American Prod. Co. No. 16 United Ld. Co., Sec. 15-10s-4e. S.D. 1,472 ft.
Pan American Prod. Co. No. 17 United Ld. Co., Sec. 15-10s-4e. T.D. 905 ft.; 5½-in. csg. 889 ft.; tstg.
Sorrento Synd. No. 1 L. L. Bernard, Sec. 27-10s-4e. R.U.

South Houma—Terrebonne Parish

Shell Oil Co., Inc., No. 1 Duplantis, Sec. 74-18s-18e. T.D. 2,530 ft.; 10¾-in. csg. 2,521 ft.; drlg. sh. 4,897 ft.

South Roanoke—Jeff Davis Parish

Continental Oil Co. No. 1 Calcasieu Natl. Bnk., Sec. 7-10s-14w. 8⅝-in. csg. 9,867 ft.; T.D. 9,985 ft.; flwd. 262 bbl. dist. 21 hrs.; ⅛-in. ck.; oil sd. 9,950-80 ft.

Starks—Calcasieu Parish

Skelly Oil Co. No. 1 Industrial Lbr. Co., Sec. 20-9s-12w. Drlg. sh.&L. 5,010 ft.

Valencia—La Fourche Parish

T. G. Markley and Mohawk Oil Corp. No. 1 Deusson Hrs., Sec. 100-17s-20e. T.D. 6,905 ft.; sdtrkd.; T.D. 6,825 ft.; 7-in. csg. 6,223 ft.; perf. csg. 6,145-51 ft.; tstd. dist.
Pan American Prod. Co. No. 20 Harang, Sec. 8-17s-20e. T.D. 4,608 ft.; sdtrk.; drlg. sh. 6,312 ft.

Venice—Plaquemines Parish

Tide Water Asso. Oil Co. No. 5 Buras Lv. Bd., Sec. 23-21s-30e. T.D. 8,616 ft.; cutting screen.
Tide Water Asso. Oil Co. No. 10 Manhattan Ld. & Fruit Co., Sec. 26-21s-30e. S.D. 290 ft.

Villa Platte—Evangeline Parish

Continental Oil Co. No. 1 Attales, Sec. 45-3s-2e. T.D. 9,110 ft.; prep. to P.B.
Continental Oil Co. No. 1 Bertha Fontenot, Sec. 47-3s-2e. Loc.
Continental Oil Co. No. 2 Fontenot, Sec. 46-3s-2e. T.D. 9,042 ft.; T.S. 8,977 ft.; I.P. 327 B.P.D.; ⅛-in. ck.
Continental Oil Co. No. 3 Haas, Sec. 44-3s-2e. Drlg. sd.&sh. 4,430 ft.
Continental Oil Co. No. 4 Hirsch, Sec. 44-3s-2e. Drlg. sh. 9,072 ft.
Continental Oil Co. No. 2 Opelousas, Sec. 44-3s-2e. Drlg. sh. 10,280 ft.
Continental Oil Co. No. 4 Opelousas St. Landry Security Co., Sec. 44-3s-2e. Loc.
Continental Oil Co. No. 3 Orise Deville, Sec. 46-3s-2e. T.D. 9,035 ft.; 6-in. csg.; full hole job 9,035 ft.; I.P. 291 B.P.D.; ⅛-in. ck.
Continental Oil Co. No. 3 Pitre, Sec. 44-3s-2e. Loc.
Continental Oil Co. No. 4 Vidrine, Sec. 46-3s-2e. Loc.

West Gueydan—Vermilion Parish

Magnolia Pet. Co. No. 2 J. B. Ferguson, Sec. 5-12s-2w. T.D. 7,172 ft.; 7-in. csg. 6,812 ft.; oil sd. 6,685-95 ft.

West Lake Verret—St. Mary Parish

Shell Oil Co., Inc., No. 3 Jeanerette Lbr. Co. 10¾-in. csg. 2,493 ft.; T.D. 10,004 ft.; cg. sh. 10,135 ft.
Shell Oil Co., Inc., No. 1 Michel, Sec. 1-14s-12e. Driving piling.

Woodlawn—Jeff Davis Parish

Union Sulphur Co. No. 5 Calcasieu Natl. Bnk., Sec. 12-9s-6w. Cg. sh. 9,801 ft.
Union Sulphur Co. No. 1 Raymond Hebert, Sec. 6-9s-5w. Drlg. sdy. sh. 7,506 ft.
Union Sulphur Co. No. 1 M. F. Johnson, Sec. 12-9s-6w. T.D. 9,500 ft.; fsg. for electrical survey.
Union Sulphur Co. No. 3 Mrs. O'Miller, Sec. 7-9s-5w. Drk.

S. LOUISIANA WILDCATS

Acadia Parish

Tri Parish Drillers, Inc., No. 1 Paul Stag, Sec. 4-7s-1w. M.I. rig.

Assumption Parish

Shell Oil Co. No. 1 Ellis, Sec. 66-16s-14e. Drlg. sh. 11,212 ft.

Avoyelles Parish

Adams O. & G. Co. et al No. 1 Poor Farm, Sec. 8-2n-4e. 9⅝-in. csg. 1,024 ft.; T. Sparta 4,081 ft.; T. Wlx. 5,606 ft.; drlg. sdy. sh. 6,430 ft.
C. B. Bunte No. 1 Hines Tie & Timber Co., Sec. 24-3n-2e. Drk.
G. C Koch et al No. 1 Purdy Hess Lbr. Co., Sec. 25-2n-3e. O.W.D.D.; T.D. 8,054 ft.; W.O. rig.

Beauregard Parish

Atlantic Ref. Co. No. 1 Lutcher Moore, Sec. 22-3s-11w. Loc.
Atlantic Ref. Co. No. 1 Rice Ld. & Lbr. Co., Sec. 22-3s-11w. Loc.
Atlantic Ref. Co. No. 1-A Rice Ld. & Lbr. Co., Sec. 22-3s-11w. T. Cook Mtn. 6,628 ft.; T.D. 8,518 ft.; 5½-in. csg. 8,518 ft.; P.B. 8,384 ft.; perf. csg. 8,282-97 ft.; tstd. 35 lb. pres.; rec. 51 stands S.W.; sqz. perf.; perf. csg. 7,720-40 ft.; tstd. S.W.; perf. csg. 7,585-7,600 ft.; tstd. S.W.; perf. csg. 7,587-98 ft.; rec. mud and wtr.; prep. to shoot with nitro 7,585-7,603 ft.
Standard Oil Co. of Calif. No. 1 Long Bell Lbr. Co., Sec. 23-4s-9w. T. Cckfld. 6,949 ft.; 9⅝-in. csg. 7,830 ft.; cd. top Wlx. sd. 9,630 ft.; T.D. 10,692 ft.; drlg. up survey instrument at 10,470 ft.

Calcasieu Parish

La.-Gulf Coast Drlg. Co. No. 1 Langdon, Sec. 13-10s-13w. Drk.
Humble O. & R. Co. No. 1 Edgewood Ld. & Logging Co., Sec. 32-7s-10w. T.D. 8,005 ft.; 5½-in. csg. 7,075 ft.

Iberia Parish

Texas Co. No. 3-B State-Vermilion Bay, Twp. 16s-5e. T. salt 5,970 ft.; B. salt 7,540 ft.; 9⅝-in. csg. 7,705 ft.; T.D. 10,241 ft.; 7-in. csg. 10,217 ft.; drld. out to 9,923 ft.; used hole for geophysics; drlg. out cmt. at 10,176 ft.

Iberville Parish

Housh & Thompson No. 1 Kessler & Folse, Sec. 40-11s-13e. T.D. 9,165 ft.; fsg.; sdtrkd.; drld. to 8,929 ft.; P.B. 8,775 ft.; W.O.C.
Humble O. & R. Co. No. 1-B A. Wilberts Lbr. & Shingle Co., Sec. 78-8s-8e. 20-in. csg. 165 ft.; drlg. 2,600 ft.

Jeff Davis Parish

R. M. Bleakie et al No. 1 Lack-Moore Co., Ltd., Sec. 29-7s-6w. 13⅜-in. csg. 65 ft.; 9⅝-in. csg. 1,123 ft.; T.D. 7,510 ft.; abd.
Stanolind O. & G. Co. No. 3-B Ervin & Bishop, Lot 15, Sec. 7-9s-5w. T. salt 6,315 ft.; T.D. salt 6,458 ft.
Union Sulphur Co. No. 2 H. B. Tietje, Sec. 36-2s-4w. Drlg. sh. 1,520 ft.

La Fourche Parish

J. Perry Scranton No. 2 Martinez, Sec. 132-15s-17e. T.D. 9,003 ft.; 7-in. csg. 9,000 ft.
Texas Co. No. 1 L.L.&E. Golden Meadows, Sec. 77-19s-21e. 9⅝-in. csg. 10,744 ft.; T.D. 12,526 ft.; P.B. 11,810 ft.; made sqze. job; perf. csg. 10,769-71 ft.; tstd. S.W.; P.B. 10,269 ft.; stk. D.S.; drlg. on junk; perf. csg. 8,975-90 ft.; tstd. dry gas, 2,750 lb. W.P.; perf. csg. 7,300-20 ft., rec. drlg. mud; perf. csg. 4,400-30 ft.; tstd. dry gas; sqzd. perf.; perf. csg. 4,405-4,530 ft.; perf. csg. 4,400-50 ft.; tstd. dry; perf. csg. 2,675-80 ft.; set retainer; W.O.C.
Tide Water Asso. Oil Co. No. 1 Delta Farms, Inc., Sec. 6-17s-23e. Loc.

Livingston Parish

Fowler & Tower No. 1 Ellis Hood, Sec. 37-7s-3e. Drlg. sdy. L. 7,186 ft.

Orleans Parish

W. T. Burton No. 3-B Faubourg de Montluzin, Sec. 1-11s-13e. Drlg. sh. 8,406 ft.
W. T. Burton No. 1 L.&N.R.R., Sec. 18-11s-15e. T.D. 9,000 ft.; 7⅝-in. csg. 8,820 ft.; T.D. 10,138 ft.; well tried to blow out; set retainer; T.D. 10,040 ft.; P.B. 9,740 ft.; sdtrkd.; drlg. 10,212 ft.
W. T. Burton No. 3 L.&N.R.R., Sec. 25-11s-14e. Loc.
W. T. Burton No. 2 State-Lake Pontchartrain, Twp. 10s-10e. Loc.

Plaquemines Parish

Gulf Oil Corp. No. 8 State P.P., Sec. 18-23s-31e. Loc.
Texas Co. No. 1 State-Bastian Bay, Sec. 43-20s-28e. Loc.

St. Bernard Parish

Carter, Molero & Brian, Sec. 129-14s-14e. Drk.
Gulf Ref. Co. No. 4-State-R.R. (Lake Borgne), Twp. 12s-15e. 9⅝-in. csg. 8,161 ft.; T.D. 10,632 ft.; P.B. 9,700 ft.; rmd. to 9,658 ft.; lost core bbl.; P.B. sdtrkd. 8,912 ft.; T.D. 10,528 ft.; 7-in. csg. 10,494 ft.; fsg.

St. Martin Parish

Housh & Thompson No. 1 Emile Le Doux, Sec. 57-11s-6e. Drk.
Shell Oil Co., Inc., No. 1 Iberville Ld. Co., Sec. 86-8e-7s. Bldg. road.
Texas Co. No. 12 St. Martin, Sec. 21-8s-7e. Drlg. S.W. sd. 9,074 ft.

St. Mary Parish

Perry S. Cooney No. 1 A. W. Allain, Sec. 46-13s-9e. S.D. 2,600 ft.

St. Tammany Parish

Honey Island Dev. Corp. No. 1 W. C. Forbes, Sec. 33-7s-15e. T.D. 100 ft.; 20-in. csg. 87 ft.

Terrebonne Parish

Shell Oil Co., Inc., No. 1-A Peters, Sec. 47-19s-19e. Dredge canal.
Texas Co. No. 3 State-Coon Point, Twp. 23s-14e. Loc.

Vermilion Parish

La. Ld. & Expln. Co. No. 1 La. Fur. Co., Sec. 21-15s-1e. Drlg. sdy. sh. 10,740 ft.

Vernon Parish

W. T. Burton No. 1 W. T. Burton Mineral fee, Sec. 32-1n-6w. Drlg. sh. 7,919 ft.
Nat Hunter et al No. 1 W. T. Burton fee, Sec. 13-2n-5w. R.U.

West Feliciana Parish

McKay et al No. 1 James Montgomery. Drlg. sh. 1,940 ft.

TEXAS

Week Ending July 22

GULF COAST FIELDS

Old Ocean—Brazoria County

Harrison & Abercrombie No. 1 Grimes, C. Breen Sur. Drlg. sd.&L. 4,910 ft.
Harrison & Abercrombie No. 1 C. W. Markle, Polly & Chance Sur. 9⅝-in. csg. 7,016 ft.; T.D. 11,079 ft.; sdtrkd.; drlg. sh.&sd. 10,280 ft.
Mid-Continent Pet. Corp. No. 1 Wm. Chenault, C. Breen Sur. 9⅝-in. csg. 7,000 ft.; cg. 9,980 ft.
Sun Oil Co. No. 2 Borsodi, C. Breen Sur. Loc.
Sun Oil Co. No. 8 Campbell, C. Breen Sur. 13⅜-in. csg. 1,565 ft.; drlg. sh.& L. 5,200 ft.

Cedar Point—Chambers County

Standard of Texas et al No. 13-117 State, 10¾-in. csg. 1,600 ft.; drlg. sdy. L. 7,735 ft.

Seabreeze—Chambers County

Sun Oil Co. No. 2 Hoffman, T.&N.O. Sur. No. 131. T.D. 8,400 ft.; W.O.C.

Turtle Bay—Chambers County

Stanolind O. & G. Co. No. 1 State, Tr. No. 39. Loc.

West Columbia—Brazoria County

Texas Co. No. 33 Abrams, G. Tennille Sur. T.D. 4,198 ft.; 9⅝-in. csg. 4,191 ft.

Thompson—Fort Bend County

H. M. Naylor No. 1 M. W. Shanks, Horatio Chrisman Sur. Drlg. 7,020 ft.
H. M. Naylor No. 5 Musselman, H. Chrisman Sur. R.U.

Caplen—Galveston County

Sun Oil Co. No. 1 Zinn & Forman, S. F. Hughes Sur. Bldg. drk.

League City—Galveston County

Phillips Pet. Co. No. 5 Bertha Lost Wilson, Perry & Austin Sur. 10¾-in. csg. 2,541 ft.; cg. 9,030 ft.
Phillips Pet. Co. No. 1 Dugan, S. F. Austin Sur. Drlg. sh. 5,830 ft.
Phillips Pet. Co. No. 1 Rice, Perry & Austin Sur. Cg. sh. 8,656 ft.
Phillips Pet. Co. No. 1 West Prod. Co., Perry & Austin Sur. Drlg. sh. 6,250 ft.
Phillips Pet. Co. No. 3 Lobit Wilson, Perry & Austin Sur. T.D. 9,310 ft.; 5½-in. csg. on bttm.
West Prod. Co. No. 1 fee, Lot 2, Blk. 5, Perry & Austin Sur. Loc.

Clear Lake—Harris County

Humble O. & R. Co. No. 10-C Humble-West, J. Lindsay Sur. T.S. 5,780 ft.; T.D. 5,844 ft.; tstg.
Humble O. & R. Co. No. 12-C Humble-West, Wm. Doble Sur. Drlg. sh. 5,601 ft.
Humble O. & R. Co. No. 14-C Humble-West, J. Lindsay Sur. Loc.
Stanolind O. & G. Co. No. 2 Sowden, J. Lindsay Sur. Cg. sh.&sd. 5,848 ft.

Clinton—Harris County

Stanolind O. & G. Co. No. 2 Edwards, Reels & Trobough Sur. Drk.
Stanolind O. & G. Co. No. 2 Oates, C. Martinez Sur. Loc.

Eureka—Harris County

Jack Frazier No. 1 W. T. Helberg, H. Reinerman Sur. R.U.
Houston Oil Co. No. 3 Helberg & Lackner, J. Reinerman Sur. Loc.
Tide Water Asso. Oil Co. No. 2-B Lackner, H. Reinerman Sur. T.D. 8,090 ft.; perf. csg. 8,040-50 ft.; sqzd. perf.; perf. csg. 7,934-44 ft. and 7,944-49 ft.; flowed 3 B.P.H.; S.I.

Fairbanks—Harris County

Kirby Pet. Co. et al No. 1 Hillebrenner, T. M. Dorsett Sur. 9⅝-in. csg. 1,300 ft.; T.D. 6,849 ft.; perf. csg. 6,843-46 ft.; flwg. gas; made sqze. job; reperf. csg.; jetting 90 B.P.D.; ⅛-in. ck.
Union Prod. Co. No. 1 C. H. Daniel, S. S. Reynolds Sur. 10¾-in. csg. 1,479 ft. perf. csg. 6,830-41 ft.; flwd. oil and S.W.; made sqze. job; W.O.C.

Friendswood—Harris County

Humble O. & R. Co. No. 14 Keisling, T. Choate Sur. Drlg. sh. 6,081 ft.
Humble O. & R. Co. No. 2 Keller, T. Choate Sur. Drlg. sh. 5,810 ft.

Humble—Harris County

Humble O. & R. Co. No. 1 Martha O'Connor, J. Dunman Sur. Drlg. sh. 5,510 ft.

South Houston—Harris County

Commerce Oil Co. No. 1 O. R. Stalti, Callahan & Vince Sur. 10¾-in. csg. 1,516 ft.; T.D. 7,554 ft.; well tried to blow out; stk. D.S.; fsg.

Clam Lake—Jefferson County

Shell Oil Co., Inc., No. 3 McFaddin, McFaddin Sur. T.D. 4,001 ft.; P.B. 2,048 ft.; made sqze. job 2,042-47 ft.; abd.

Fannett—Jefferson County

Gulf Oil Corp. No. 1 E. P. Bordages, J. Probarth Sur. Drlg. sh. 7,007 ft.

La Belle—Jefferson County

Sun Oil Co. No. 5 Broussard-Hebert, T. &N.O. Sur. No. 207. 18⅝-in. csg. 130 ft.; T.D. 7,650 ft.; cmtd. 9⅝-in. csg.; set plug 7,555-7,640 ft.; drld. cement to 7,700 ft.; sdtrkd.; drlg. sh.&L. 7,960 ft.

Lovells Lake—Jefferson County

Humble O. & R. Co. No. 5 Broussard, M. Grange Sur. T.D. 7,840 ft.; perf. csg. 7,790-7,800 ft.; tstg.
Humble O. & R. Co. No. 6 Broussard, M. Grange Sur. Loc.
Humble O. & R. Co. No. 5 Jefferson Ld. Co., C. Hillebrandt Sur. Cg. 7,706 ft.

North Cheek—Jefferson County

Magnolia Pet. Co. No. 6 Phelan, H.T.&B. Sur. No. 1. R.U.

South China—Jefferson County

Geo. Echols et al No. 2 Fontenot, H.T.& B. Sur. No. 17. 10¾-in. csg. 1,134 ft.; drlg. sh.&L. 7,204 ft.
Magnolia Pet. Co. No. 1 Broussard, H.& T.C. Sur., Sec. 18. R.U.

Esperson—Liberty County

General Crude Oil Co. No. 4-B Esperson, A. McNeil Sur. Drlg. sh. 1,964 ft.
General Crude Oil Co. No. 5-B Esperson, A. McNeil Sur. Drlg. sh.&sd. 1,960 ft.

Hardin—Liberty County

Gulf Oil Corp. No. 4 Cessna, H. B. Johnston Sur. R.U.

Hull—Liberty County

Gulf Oil Corp. No. 115 Phoenix Dev. Co., J. Devore Lge. (SE flank deep test). R.U.

Martha—Liberty County

Stanolind O. & G. Co. No. 1 C. F. Seaberg, I.&G.N. Sur. No. 7. Loc.

North Markham—Matagorda County

Ohio Oil Co. No. 2 Carlson, I.&G.N. Sur. No. 2. 10¾-in. csg. 1,472 ft.; T.D. 6,886 ft.; P.B. to strghtn. hole; drlg. L. 7,568 ft.

Orange—Orange County

John Mayo No. 1 M. J. Williams, Dyson Sur. R.U.

Ace—Polk County

Dick Schwab No. 1-C Kirby-West Lbr. Co., G. A. Thomas Sur. Loc.
Shell Pet. Corp. No. 2 Doucett, P. A. Sublett Sur. Loc.

Segno—Polk County

Gulf Oil Corp. No. 4 Quinn, A. Morales Sur. R.U.
Gulf Oil Corp. No. 1 Ragan, I.&G.N. Sur. No. 15. Drlg. sh. 6,480 ft.
Gulf Oil Corp. No. 21 Wing, I.&G.N. Sur. No. 14. Drlg. sh. 6,212 ft.
Humble O. & R. Co. No. 13-B Kirby Lbr. Co., P. Garcia Sur. Bldg. rd.
Humble O. & R. Co. No. 14-B Kirby Lbr. Co., M. Victor Sur. T.D. 8,220 ft.; R.U. to pmp.
Humble O. & R. Co. No. 15-B Kirby Lbr. Co., P. Garcia Sur. Loc.

Orange—Port Neches

Texas Co. No. 15 Kuhn, A. E. Hall Sur. 10-in. csg. 1,794 ft.; T.D. 5,914 ft.; 7-in. csg. 5,841 ft.

Spurger—Tyler County

Republic Prod. Co. No. 22 fee, N. Hurd Lge. Drlg. sh. 8,486 ft.
Republic Prod. Co. No. 23 fee, A. Sterne Lge. Spd.
Republic Prod. Co. No. 23 fee, A. Sterne Lge. Loc.

GULF COAST WILDCATS

Brazoria County

Fabriguze et al No. 1 Freeport Sulphur, Stephen F. Austin Sur. (Byran Mound). M.I.M.
Hamman Explin. Co. No. 1 Darrington, Achilles McFarland Sur. 10¾-in. csg. 1,200 ft.; 7-in. csg. 8,887 ft.; T.D. 8,917 ft.; P.B. 8,490 ft.; sdtrkd.; T.D. 9,102 ft.
Hamman Explin. Co. No. 2 Darrington, State Prison Farm, F. Bingham Sur. W.O. rig.
Glenn McCarthy No. 1 J. C. Carr, J. D. Valderas Sur. R.U.
Glenn McCarthy No. 1 Houston Farm Dev., James F. Perry and E. Austin Sur. No. 7. Drlg. 9,895 ft.
Rowan Drlg. Co. No. 1 Vilren, J. S. Talmage Sur., Sec. 68. Drlg. sh. 5,894 ft.

Chambers County

Geo. Anderson No. 1 Julia Casey, W. D. Smith Sur. Loc.
Plymouth Oil Co. No. 1 Wilburn, Wm. H. Moore Sur. 10¾-in. csg. 1,994 ft T.D. 7,416 ft.; stk. D.S.; sdtrkd.; drlg. sh. 7,421 ft.
J. R. Turnbull et al No. 1 W. C. Shepherd, R. A. Porter Sur. 10¾-in. csg. 1,150 ft.; drlg. sh. 5,600 ft.
Windsor Oil Co. et al No. 1 C. M. Frost, Sec. 97, H.&T.B. Sur. Loc.

Colorado County

Cockburn Oil Corp. No. 1 R. W. Ferris, H. Chrisman Sur. Loc.

Fort Bend County

J. H. Blaffer No. 1 J. H. P. Davis, R. Peebles Sur., S flank Thompson field. Loc.
H. R. Cullen No. 1 Booth, Wickson Sur., S flank Big Creek. Loc.
Lloyd Farr et al No. 1 Beard, H.&T.C. Sur. No. 118. Drlg. sd. 558 ft.
C. B. McDaniel et al No. 1 Melanie Settegast, E. P. Whitehead Sur. R.U.
O. J. Martin et al No. 1 W. B. Blakely, J. Frederick Sur. S.D. 8,052 ft.; rmg. to bttm.
R. N. Ranger No. 1 Basset Blakeley, Thos. Habermacher Sur. Loc.
Superior Oil Co. No. 1 Shirie Beard et al, H.&T.C. Sur. No. 111. 10¾-in. csg. 1,230 ft.; T.D. 7,524 ft.; sdtrk.; drlg. sh. 5,567 ft.
Woodland Oil Co. No. 1 Herietta Berg et al, H.&T.C. Sur., Sec. 25. T.D. 7,410 ft.; 9⅝-in. csg. 7,391 ft.; P.B. 7,375 ft.; unable to sdtrk.; perf. csg. 7,266-68 ft.; sqzd.; W.O.C.

Galveston County

Sun Oil Co. No. 1 State, East Galveston Bay. T.D. 6,047 ft.; run elec. survey.

Hardin County

Geo. Echols No. 1 Merchant Est., Stephen Jackson Lge. (E. flank Sour Lake field). T.D. 4,760 ft.; abd.
Norcoff Corp. No. 1 Caswell, B.B.B.&C Sur. No. 72 (E flank Saratoga dome). T.D. 4,900 ft.; sdtrkd.; drlg. sh. 3,910 ft.

Harris County

Coastal Dev. Co. No. 1 J. J. Sweeney, J. C. Ogburn Sur. 10¾-in. csg. 820 ft.; drlg. sh. 5,621 ft.
Houan & Thompson et al No. 1 J. L. Krey, B. Herra Sur. 10¾-in. csg. 750 ft.; T.D. 7,828 ft.; abd.
M. I. and Joyce Richardson No. 1 J. J. Sweeney, John Ogburn Sur. Drk.
L. R. Wilhite et al No. 1 Houston-Harris Co. Ship Channel, Nav. dist., Ezekiel Thomas Sur. R.U.

Jackson County

Humble O. & R. Co. No. 1 M. H. Toney, R. Musquiz Sur. 9⅝-in. csg. 1,356 ft.
J. Mayo et al No. 1 J. H. Tucker, R. Musquiz Sur. 10¾-in. csg. 593 ft.; T. D. 5,829 ft.; P.B. 4,980 ft.; sdtrkd.; drlg. sh. 5,556 ft.
Moore & Ahern No. 1 J. M. Heard, Morris-Cummins Sur. Loc.
Moore & Ahern No. 1 Victoria Ld. & Loan Co., P. Scott Sur. T.D. 7,010 ft.; S.D.
Norcuff Oil Corp. No. 1 Hollingsworth, Eli Mercer gr. 10¾-in. csg. 466 ft.; S.D. 3,005 ft.; prep. to drill ahd.

Jasper County

Bob Milner et al No. 1 Cartwright, E. O. LeGrande Sur. 10¾-in. csg. 1,042 ft.; drlg. sh. 6,636 ft.

Jefferson County

I. E. Harwell No. 1 State, Gulf of Mexico. T.D. 5,840 ft.; D.S. stk.; pulled in two; S.D.
Humble O. & R. Co. No. 15-B McFaddin Beach State, Gulf of Mexico, 660 ft. NW of No. 13-B. Drlg. sh. 6,576 ft.

Orange County

American Eagle Oil Co. No. 2 Geo. Peil, Geo. A. Patillo Sur. Loc.

Polk County

Jack Frazier et al No. 2 Bergman, A. Viesca Sur. T.D. 7,566 ft.; abd.
Patrick-Tyrell Drlg. Co. No. 1 O. L. Jackson, C. Devore Sur. Loc.

San Jacinto County

F. J. Hynes No. 1 Foster Lbr. Co., M. Brown Sur. Loc.
F. J. Hynes No. 2 Foster Lbr. Co., M. Finch Sur. Loc.

Washington County

Mount Selman Oil Co. No. 1 Fritz Fuelberg, W. Lightfoot Sur. M.I.R.

Wharton County

Dr. T. M. Neal No. 1 fee, Elisha Flack Sur. Loc.

S. W. TEXAS WILDCATS

Atascosa County

Pulliam & Dixon No. 1 J. T. Henke, A.S. Donovan Sur. No. 145. S.D. 668 ft.; run 5½-in. csg. to test O.S. 648-56 ft.

Bastrop County

Joe Hughes et al No. 2 Lentz, Freeman Wilkinson Sur. No. 21. 7-in. csg. 2,260 ft.; swbd. acd. wtr. and oil; T.D. 2,369 ft.; W.O.
Marts & Bearen No. 1 Woods, Dennis Dykes Sur. No. 36. R.U.

Bell County

M. M. Gordon No. 1 Steele, Oliver T. Tyler Sur. S.D. 1,201 ft.
G. P. Shelton et al No. 1 Nelson, Michael Griffin Sur. S.D. 1,208 ft.

Bexar County

E. D. Harris No. 1 Schroeder, Luke Bust Sur. No. 37. Drlg. 915 ft.
Joe A. Noake No. 1 Griffin, R. Kirby Sur. Spd. and S.D.

Blanco County

H. C. McCart No. 1 Geo. Lester, Newton Carson Sur. No. 34. S.D. 565 ft.

Brooks County

Magnolia Pet. Co. No. 2 Denman, Jose Marcelo Hinojosa gr. S.D. 6,850 ft.; may abd.

Caldwell County

Magnolia Pet. Co. No. 1 Morris, Moses Gage Sur. No. 26. 10-in. csg. 280 ft.

Duval County

Bunn Bros. No. 1-F W. R. Peters, J. Poitevent Sur. No. 161. Drlg. sh. 2,620 ft.
W. L. Catlin et al No. 1 Louis Escapule, J. Poitevent Sur. No. 73. Loc.
Lee Corkill et al No. 1 Tonkin, Benavides Sur., Sec. 30. S.D. 5,900 ft.
Joe S. Dean et al No. 1 Hyatt, S.&M. Sur., Sec. 535. Drlg. sh. 3,361 ft.
W. L. Goldston et al No. 1 J. F. Hyatt, S.&M. Sur. No. 535. Drk.
G. L. Rowsey et al No. 1 Parr, S.A.&M.G.R.R. Sur., Sec. 117. Drk.
Taylor Ref. Co. No. 1 Parr, S.A.&M.G. Sur. No. 117. Drk.
W. A. Wagner No. 1 D. J. Weikel, John H. Gibson Sur. No. 497. R.U. and S.D.

Edwards County

O. L. Alderfer and C. W. Davis No. 1 J. A. Earwood, C.C.S.D.&R.G.N.G.R.R. Sur. Sec. 158. S.D. 125 ft
O. C. Reynolds No. 1 Paul Turney, C.C. S.D.&R.G.N.G. Sur. T. sdy. L. 410 ft.; T.D. 416 ft.; 6-in. csg. 375 ft.

Goliad County

Crown Central Pet. Co. et al No. 1 C. G. Wood, John Shern Sur. Drlg. sh. 1,810 ft.

Gonzales County

E. E. Young No. 1 Moore, D. O. Warren Sur. M.I.M.

Guadalupe County

C. L. Felty No. 1 Warneke, Vicente Duran Sur. No. 4. S.D. 765 ft.
John Hueners No. 1 Boecker, John Baker Sur. No. 26. T.D. 1,013 ft.; P.B. 763 ft.; comp. as wtr. well.
Tide Water Asso. Oil Co. No. 1 Jackson, J. O. Blair Sur. No. 422. Top chalk 2,460 ft.; cd. chalk 2,456-63 ft.; no shows; T. Edw. L. 2,764 ft.; cg. L. 2,778 ft.; no show.

Hays County

B. C. Mann et al No. 1 Reeder, R. Vaughn Sur. Drlg. 767 ft.

Hidalgo County

San Juan Oil Co. No. 1 J. C. Kelly, J. C. Kelly subd., Antonio Velasco Sur., Porc. 70. Drk.
Shary Maddox No. 1 A. C. Neal, Santa Anita gr. Drlg. sh. 7,186 ft.
Pantano Pet. Co. No. 1 H. E. Harding, La Mesteña Rnh. subd. (La Blanca field). T.D. 8,041 ft.; 7⅝-in. csg. on bttm.
Wheelock & Smith No. 1 Yturria Town & Imp. Co., Anastacio Villareal Por. No. 43. T.D. 4,069 ft.; perf. csg. 3,679-87 ft.; tstd. gas and S.W.; S.D.

Jim Hogg County

Imperial Oil Co. No. 1 Jose M. Gutierrez, H. Rodriquez Sur. No. 142. 10-in. csg. 40 ft.; drlg. sh. 3,629 ft.
Magnolia Pet. Co. No. 1 Ysaquirre et al, "Agua Nueva de Abajo." J. M. Ramirez Sur. 13⅜-in. csg. 2,083 ft.; drlg. sh. 3,626 ft.

Jim Wells County

Loring Bradstreet No. 1 Rehment, Lot 12, Morro Phillips Sur. Drk.
Gorman & Yoakam No. 1 J. A. Schmidt, Casa Blanca gr. T.D. 5,713 ft.; made elec. survey.
Magnolia Pet. Co. No. 1 J. O. Maun, Lot 6, Blk. 11. T.D. 6,803 ft.; 7-in. csg. 6,811 ft.; perf. csg. 6,806-10 ft.; tstd. 200 ft. P.L.O., 200 ft. brackish wtr.; sqzd. perf.; perf. csg. 6,806-11 ft.; rec. 1,200 ft. P.L.O., 155 ft. S.W.; run tbg.
W. R. Quinn et al No. 1 D. M. and Fritz Pundt, T. C. Wright Sur. S.D. 4,770 ft. 7-in. csg. 4,770 ft.; T.D. 5,415 ft.; P.B. 4,761 ft.; set 5-in. csg. 4,892 ft.; drld. out 4,810 ft.; flowing 24 bbl. water-white dist. P.D.; ¼-in. ck.; T.P. 1,800 lb.; C.P. 1,900 lb.; S.I.; killed; sqzd. perf. 4,794-98 ft.; W.O.C.
Smith & Storey No. 1 Shaeffer, Stanley Welch Sur. No. 90. T.D. 2,335 ft.; 5½-in. csg. 2,335 ft.; perf. csg. 2,194-2,204 ft.; tstd. S.W.; S.D.

Karnes County

Paul Meador No. 1 Ruhman, J. Richardson Sur. Drk.

Kendall County

C. M. Dewey No. 2 Seidensticker, R. Davis Sur. No. 20. S.D. 714 ft.

Kimble County

W. S. Kelly No. 1 A. L. Bierchwale, D. Lloyd Sur. S.D. 135 ft.
C. H. Wolff & M. C. Moore No. 1 W. J. Wilkinson, Brook & Burleson Sur., Sec. 24. R.U.

La Salle County

C. B. Johnson et al No. 1 Yeager, A.B. &M. Sur. No. 53. M.I.M.

Lavaca County

W. L. Goldston No. 1 Turk, Edwards Sur. Drlg. sh. 7,186 ft.

Lee County

Fred Pederson et al No. 1 Brown, David Hudson Sur. Pmpd. 100 B.F.; 36 hrs.; 3 bbl. oily emulsion; cd. L. 6,461-90 ft.; T.D. 6,571 ft.; S.D.

Live Oak County

Luling O. & G. Co. No. 1 R. F. Byler, J. Poitevent Sur. No. 95. R.U.
Salviejo Oil Co. No. 1 J. W. Hines et al, Sec. 98, Blk. 3953, J. W. Mackey Sur. No. 399. T.D. 3,507 ft.; abd.
Salviejo Oil Co. No. 1 Reser, Amos Moore Sur. R.U.
L. W. Stieren No. 3 Lange, Thos. Adams Sur. T.D. 1,497 ft.

McMullen County

Bruce Albright No. 1 H. T. Theim, J. Gerner Sur. No. 6. Drlg. sh. 367 ft.
F. H. Gohlke No. 2 E. L. Miles, Wm. Kohfler Sur. No. 78. R.U.
C. D. Scarborough No. 1 First Natl. Bk. of Rosebud, James Garner Sur. S.D. 43 ft.
C. C. Shumway and C. H. Burns No. 5 Shiner, Wm. McGill Sur. Drlg. 1,156 ft.
C. C. Shumway et al No. 6 Shiner, Henry Brewer Sur. R.U.
C. C. Shumway No. 14 Shiner, S. N. Steinhardt Sur. No. 62. T.D. 1,120 ft.; abd.

Nueces County

Bay-Tex Oil Co. et al No. 1 Dallas Joint Stock Ld. Bnk., Palo Alto gr., Sec. 148. Drlg. sh. 6,370 ft.
Blanco-Buchanan No. 1-C Gandy, Geo. H. Pauls subd. T.D. 3,830 ft.; 7-in. csg. 3,830 ft.; perf. csg. 3,821-26 ft.; rec. 900 ft. drlg. mud and sd.
Joe W. Cosner No. 1 S. F. Lehman, Laureles Farm subd., Sec. 11. Loc.
E. A. Graham et al No. 1 Sam Taylor, D. M. Oliver Sur., Sec. 465. S.D. 6,024 ft.; abd.
John Manley et al No. 1 Ruegg, Geo. H. Pauls subd. of Driscoll ranch. Loc.
Millis Bennett Prod. Co. No. 1 Poenisch, E. Villareal Sur. T.D. 7,512 ft.
Phillips Pet. Co. No. 1 Gandy, Geo. H. Pauls subd. of D[illegible]oll ranch. R.U.
Reed & Cox No. 1 [illegible]egg, Geo. H. Pauls subd. of Driscoll ranch. Drlg. sh. 5,245 ft.
Shield Oil Co. No. 1 Magee, Blk. 10, Driscoll ranch, Geo. Paul subd. 10¾-in. csg. 650 ft.; cg. 5,582 ft.; rec. oil and mud; D.S.T. 5,556-82 ft.; drlg. sh. 6,770 ft.
Texas Conservative Oil Co. No. 1 J. E. Humble, Geo. H. Pauls subd., Driscoll ranch. T.D. 6,010 ft.; 5½-in. csg. 5,960 ft.; perf. csg. 5,658-63 ft., tstd. S.W.; perf. csg. 5,657-60 ft.; swbd. 98 per cent S.W., 2% oil; perf. csg. 5,927-29 ft.; rec. oil and S.W.; abd.
Texas Conservative Oil Co. No. 1 J. B. Rutland, Geo. H. Pauls subd. of Driscoll ranch. R.U.
Union Prod. Co. No. 1 W. H. Wallace, Sec. 88, Pauls subd. Loc.

Refugio County

Humble O. & R. Co. No. 4 Thompson, Cuadrilla Irrg. Sur. Drlg. sh. 2,620 ft.
L. & E. Oil Co. No. 1 J. G. Heinen, Aldrete gr. Loc.
Phillips Pet. Co. No. 1 Toland, Guadalupe Cobian & Family Sur. Drlg. sh. 6,520 ft.

Starr County

Banks, Miller Oil Co. No. 1 McLean, Unit 3, Valle Del Rico Rio Grande subd., J. B. Villareal Porc. 75. Drlg. sh. 2,770 ft.
Clopton & Mitchell No. 1 Tijerina, J. A. Falcon Porc. No. 80. T.D. 1,412 ft.; abd.
H. L. Curry No. 3 Tijerina, H.E.&W.T. R.R. Sur. No. 299. S.D. 678 ft.
C. L. Foster No. 1 H. Garza, Juan Salinas, Porc. No. 71. S.D. 100 ft.
Liberty Oil Co. No. 1 Bass, S.K.&K. Sur. No. 71. S.D. 150 ft.
Lynes & Robertson No. 1 Villareal, C.C. S.D.&R.G.N.G.R.R. Sur. No. 241. Loc.
Magnolia Pet. Co. No. 2 Guerra, Santa Cruz gr. Drlg. sh. 5,520 ft.

Travis County

Taylor Ref. Co. et al No. 1 Ballerstedt, A. C. Caldwell Sur No. 52. Drlg. 928 ft.

Victoria County

Carter, Rubsamen et al No. 1 G. W. Vogt, Victoria Townsite Sur. 10¾-in. csg. 481 ft.; T.D. 3,538 ft. sd.
John Mayo No. 1 Voight, 2 mi. south of Victoria. Drlg. 4,750 ft.
Renwar Oil Corp. et al No. 1 Johnston, F. Perez Sur. Cg. 5,306 ft.

Webb County

J. M. Anderson et al No. 1 Frost, C.C.S. D.&R.G.N.G.R.R. Sur. No. 17. Loc.
Boysen & Jones No. 2 Watkins, San Casimiro gr. T.D. 1,406 ft.; 7-in. csg. 794 ft.
F. J. Hynes No. 2 Bruni, Thos. Burtrang Sur. No. 2184. Drlg. sd. 2,761 ft.
V. G. Schimmel No. 1 Benavides, B.S.& F. Sur. No. 693. T.D. 2,350 ft., oil sd.; 7-in. csg. 2,350 ft.; perf. csg. 2,339-47 ft.; I.P. 96 B.P.D.; pmpg.
Tide Water Asso. Oil Co. No. 7 Bruni, Blk. 7, M. Arispe gr. (deep test Bruni field). Spd.

Zapata County

Joe Martinez No. 2 Bruni, J. V. Borego gr. S.D. 355 ft.

WEST TEXAS WILDCATS

Andrews County

Richmond Drlg. Co. No. 1 University, Sec. 25, Blk. 12, Univ. Sur. D.&A. 5,005 ft.

Brewster County

H. D. Wilcox No. 2 Kokernot, Sec. 23, Blk. C, J. V. Massey Sur. Drlg. 1,467 ft.

Crane County

Gulf Oil Corp. No. 5 M. B. McKnight, Sec. 1, Blk. 21-B, P.S.L. Sur. Drlg. plug 4,200 ft.

Crockett County

J. S. Pittman No. 1 Corbett-Humble, Sec. 15, Blk. 2-B, G.C.&S.F. Sur. Drlg. 890 ft.
Steel Dust Oil Co. No. 1 Geo. D. Atwood, Sec. 9, Blk. P.P., T.C.R.R. Sur. Drlg. 1,575 ft.

Crosby County

Gulf Oil Corp. No. 1-C Swenson, Sec. 95, Blk. 2, H.&G.N. Sur. Drlg. 5,915 ft.

Dickens County

Bond D. Jones No. 1 Ford et al, I.&G.N. Sur. S.D. 3,662 ft.
Humble O. & R. Co. No. 1 Matador Ld. & Cattle Co., Sec. 26, Blk. 1, Shock & Arnold Sur. T.D. 7,074 ft.; drlg. plug 6,925 ft.; P.B. 6,133 ft.; set retainer at 4,996 ft.; S.D.O. at P.B.T.D. of 4,996 ft. D.&A. 7,074 ft.

Ector County

Barnes-Conklin & White No. 1 T.&P. Lds., Sec. 28, Blk. 45, T.&P. Sur. S.D. 4,782 ft.

J. D. Bodkins No. 1 H. F. Foster, Sec. 12, Blk. 43, T.&P. Sur. Drlg.
R. H. Gill No. 1 J. E. Parker, Sec. 12, Blk. 45, T.&P. Sur. W.O.R. 145 ft.
Sloan & Zook No. 1 J. L. Johnson, Sec. 34, Blk. 43, T.&P. Sur. C.O. 4,150 ft.

El Paso County

Tri-State Oil Co. No 1 Kinkel, R.U.S.T.; to P.B. and sdtrk.; T.D. 3,571 ft.; fsg. 3,571 ft.

Gaines County

Stanolind O. & G. Co. No. 1 J. B. Rayner, Sec. 3, Blk. 30-C, P.S.L. Sur.; 6,000-ft. test. Drlg. 2,714 ft.

Glasscock County

J. R. Petty No. 1 Joe Blake, Sec. 168, Blk. 29, W.&N.W. Sur. S.D.O. 1,480 ft.
Shell Pet. Corp. No. 1 A. Neal, Sec. 38, Blk. 33, T.&P. Sur. D.&A. 3,683 ft.

Hudspeth County

Haymon Krupp Oil & Ld. Co. No. 1 Thaxton, SE¼ Sec. 34, Blk. 74, Twp. 6. S.G. 6,340-45 ft.; T.D. 6,402 ft.
Haymon Krupp No. 1 Briggs, Sec. 24, Blk. 73, Twp. 7, T.&P. Sur. Drlg. 5,728 ft.

Lynn County

John L. Baldridge No. 1 Alma Lbr. Co Sec. 151, H.E.&W.T. Sur. C.O. 3,680 ft.

McCulloch County

A. E. McMillan No. 1 Nat Randall, A, M. Waldrip Sur., Sec. 146. Spdg.

Pecos County

L. Cain No. 1 Masterson-Lehn, Sec. 71 Blk. 10, H.&G.N. Sur. C.O. after shot 1,722 ft.
Laidecker & Cain No. 1 M. M. Lehn, Sec. 71, Blk. 10, H.&G.N. Sur. Csg. 1,743 ft.; flwg. 20 B.O.; 24 hr.; tstg. 1,783 ft.
Lloyd-Penn & Hargraves No. 1 H. E Bonebrake, Sec. 110, Blk. 8, H.&G.N Sur. Drlg. 925 ft.
Magnolia Pet. Co. No. 2 Abell-Eaton, Sec. 23, Blk. 3, H.&T.C. Sur. T.D. 4,792 ft.; est. top Permian at 4,790 ft.
O. E. Schade No. 1 Otis Garrett, Sec. 59½, Blk. 8, H.&G.N. Sur. Tstg. est. 35 B.O.P.D.; T.D. 2,290 ft.; swbg. est. 20 B.O.P.D.; 5 B.W.P.D.; testg. on pmp.; tstg. 10 B.O.P.D. and 10 B.W.P.D.
Superior Oil Co. No. 1 V. W. Crockett Sec. 7, Blk. 110, T.C.R.R. Sur. C.&P
Superior Oil Corp. No. 1 V. W. Crockett Sec. 5, Blk. 110, T.C.R.R. Comp. 20 B.O.P.D.; T.D. 1,447 ft.
S. Thompson No. 1 Elainors Cattle Co., Sec. 54, Blk. D, O.C.&S.F. Sur. Rig burned; dropped baller in hole; S.D.O. 7,342 ft.
J. C. Trees No. 1 fee, Sec. 63, Blk. 8, H.&G.N. Sur. Tstg. on pmp.; est. 5 B.O.P.D. and 5 B.W.P.D.; S.D.O. 2,360 ft.
C. W. Williams No. 1 J. Eaton, Sec. 1, Blk. 203, J. H. Handy Sur. W.O.C. 3,063 ft.

Presidio County

Marfa Oil Co. No. 1 Fischer ranch, Sec. 31, Blk. 8, G.H.&S.A. Sur. M.I.M.
H. D. Wilcox No. 2 Jones-Coffield, Sec 308, Blk. 4, H.&T.C. Sur. S.D.O. 1,940 ft.

Reeves County

Artie Baker No. 1 J. W. Grider, Sec. 31, Blk. 58, P.S.L. Sur. S.D.R. 450 ft.
Forest Development Corp. No. 1 I. E. Scott, Sec. 286, Blk. 13, H.&G.N. Sur. Drlg. 2,009 ft.

Scurry County

J. B. Stoddard No. 1 R. O. McClure, Sec. 142, Blk. 97, H.&T.C. Sur. Tstg. 2,489 ft.

Terrell County

Shirley, Lanham & Blakeney No. 1, Sec. 45, Blk. 2-B, C.C.S.D.&R.G.N.G. Sur.; 2,500-ft. test. S.D. csg. 268 ft.

Tom Green County

Dane Elder No. 1 DeLong, James Webb Sur. 83. Drlg. 220 ft.
Lynn & Cobb No. 1 I. B. Cox, Val. Mueller Sur. No. 176. S.D. 368 ft.
Dan Short et al No. 1 J. G. Davidson, NW part of Lovie P. Moore Sur. S.D. csg. 2,097 ft.
Southern Cross No. 1 Upton & Upton, Sec. 20, Blk. A, A.B.&M. Sur. Prep. core 5,154 ft.
Spinner No. 1 Reed, Mason Ferry Ranch Sur. S.D.O. 5,803 ft.; tools out of hole.

Ward County

Gulf Oil Corp. No. 5 Wristen, Sec. 18, Blk. 5, H.&T.C. Sur.; scheduled Ordovician test. Drlg. 2,343 ft.
Magnolia Pet. Co. No. 1-44 Sealy, Sec. 44, Blk. F, G.M.M.B.&A. Sur. R.U.S.T. 2,754 ft.

Yoakum County

W. A. Hudson No. 1 J. D. Webb, Sec. 545, Gibson Sur. Cmtd. whipstock 4,500 ft.; S.D.O. 5,502 ft.
Shell Pet. No. 1 Waples-Platter, Sec. 616, Tstg. 5,380 ft.; hole fills at rate of 100 ft. per hr.; making 1 baller of wtr. per hr.; P.B. 5,312 ft.; pmpg. 145 B.O. P.D., 30 per cent S.W.; tstg. 5,305 ft.

TEXAS PANHANDLE

Armstrong County

Holmes, Newblock & Haley No. 1 Ed Moore, Sec. 319, Blk. 4-B, H.&G.N. Sur. Drlg. 1,450 ft.

Castro County

English et al No. 1 Gundlach, NW¼ Sec. 145, Blk. 6-M, S.K.&K. Sur. Loc.

Deaf Smith County

Uscan No. 1 Farwell, Sec. 18, Blk. 3, X. Sur. U.R. 5,626 ft.

Hartley County

Phillips Pet. Co. No. 1 W. K. Gordon, Sec. 3, Blk. 44, H.&T.C. Sur. Loc.

Lipscomb County

Phil O'Neil No. 1 J. Kock, NW SW Sec. 539, Blk. 43, T.&T.C. Sur. S.D. 480 ft.

Ochiltree County

James R. Macon et al No. 1 W. R. Norris, SW SE Sec. 212, Blk. 43, H.&T.C. Sur. Bailing rotary fluid preparatory to resuming drilling with cable tools.

Potter County

Les Whitaker No. 1 D. Pavillard, Sec. 101, Blk. 2, A.B.&M. Sur. C.&P.

Roberts County

E. J. Dunigan, Jr., No. 1 Ledrick, Sec. 34, Blk. C, G.&M. Sur. Drlg. 4,205 ft.

Wheeler County

Smith Bros. No. 1 Ribble, Sec. 46, Blk. 5-A, H.&G.N. Sur. Drlg. 2,750 ft.

E. C. TEXAS WILDCATS

Angelina County

Sewell-Murphy No. 1 Long Bell Lbr. Co., H.&B. Sur., 3 mi. E of Zavalla. Drlg. 580 ft.

Ellis County

Compton Oil Co. No. 1 M. L. Van Landingham, O. Wheeler Sur., 3 mi. E of Pluto. S.D. 1,135 ft.

Falls County

Jack Shaunfield No. 1 Bargonier, J. M. Graham Sur., SE of Chilton. Drlg. 1,100 ft.

Fannin County

H. W. English No. 1 T. W. Ayers, J. D. Seales Sur. S.D. 650 ft.

Henderson County

Scrivner et al No. 1 A.L.S. & F. Co., J.M. Saly Sur., 6 mi. SW of Athens. S.D. 3,260 ft.

Hopkins County

O. P. Vaughn No. 1 H. W. France, J. B. Hill Sur., 2 mi. N of Sulphur Bluff. Drlg. 3,885 ft.

Houston County

G. C. Dixon No. 1 W. Goodman, J. J. Thomas Sur., ¾ mi. E of Lovelady. Drlg. 3,340 ft.

Kaufman County

McGee No. 1 San Antonio Land & Cattle Co., E. Higdon Sur. D.&A. 3,336 ft.

Leon County

Humble O. & R. Co. No. 1 W. Johnson, W. Little Sur., outpost to Humble-Harris area. T.D. 5,904 ft.; made S.W.; set whpstk. 5,766 ft.; D.&A. 5,879 ft.

Limestone County

Albert Baggett No. 1 J. L. Thompson, P. Varela Sur. S.D. 15 ft.
Zephyr Oil Co. No. 2 Peeples, R. Scott Sur., 2 mi. SW of Tehuacanna. Tstg. S.S.O. at 2,645-70 ft.

McLennan County

M. M. Russell No. 1 J. B. Lindsey, G. H. Robertson Sur., NW of Waco Lake. S.D. 40 ft.

Nacogdoches County

D. McDaniels No. 1 T. H. Seale, J. A. Cherino Sur., just outside of city limits of Cherino. U.R. 842 ft.

Navarro County

Topaz Oil Co. No. 1 E. Trammel, R. Mathews Sur., 4 mi. NE of Barnett. Drlg. 2,300 ft.

Rusk County

Golden Rod Drlg. Co. No. 1 Hall Wood, J. I. Sanches Sur., 1½ mi. NW of Salem. C.O. 4,102 ft.
Hamm & Bogges No. 1 W. G. Ross, J. McCune Sur., 3 mi. NW of Mount Enterprise. D.&A. 3,836 ft.

Titus County

Superior Oil Co. No. 1 John Hargraves, S. B. Patton Sur., 6 mi. S of Mt. Pleasant. Drlg. 4,000 ft.

Van Zandt County

F. A. Richardson No. 1-A B. C. Dodd, T. W. Hutchinson Sur., 2 mi. S of Grand Saline. Swbd. dry; no show; D.&A. 4,963 ft.

NORTH TEXAS WILDCATS

Archer County

Dr[illegible] Oil & Griffin No. 3 Waggoner, Sec. [illegible] T.&T.C. Sur., Blk. 4, L.B.O. 4,875-[illegible]; S.D.O. 4,901 ft.

Clay County

L. T. Burns No. 1 J. T. Pickett, W. W. Yearly A-745, 6⅝-in. 4,430 ft.; O.S. 4,430-44 ft.; W.O.C.
Frabar-Hodges and Mid-Union Drlg. Co. No. 1 Mrs. R. C. Kinder, Lot 11, Clark & Plumb Sur., Blk. 2, S.S.O. 5,273-80 ft.; T.D. 5,527 ft.; P.B. 4,320 ft.; to test S.S.O. 4,130-65 ft.
E. C. Norwood et al No. 1 H. C. Shipley, Sec. 29, Madison Co. Sch. Ld. A-302 Sur. Drlg. 2,995 ft.
Youngblood & Foree No. 1 Mrs. Ida Wynn, Sec. 2, T.&N.O. Sur. A-796. Drlg. 3,570 ft.

Cooke County

Target Drlg. Co. No. 1 Honeycutt, Sec. 4, Univ. Lge. No. 8. Drlg. 2,675 ft.

Hardeman County

Amerada Pet. Corp. No. 1 W. M. Rice, Sec. 81, W.&N.W. Sur. Drlg. 3,411 ft.
M. M. Cooke No. 1 Mrs. M. D. Norton, Sec. 3, E.L.R.R. Sur. Spud and S.D.

Montague County

E. B. Madden No. 1 Smith, H. N. Baker A-49. Sur. Drlg. 4,127 ft.
Sinclair Prairie Oil Co. No. 1 Whaley, Sec. 16, B.B.B.&C. A-86. Sur. Drlg. 5,562 ft.

Wilbarger County

Consolidated O. Co. No. 1 Wagoner CC, Sec. 36, H.&T.C. Sur., Blk. 6. Drlg. 4,020 ft.

WEST CENTRAL TEXAS DISTRICT

Brown County

A. J. Bartrug No. 1 J. Blokom, Sec. 23, B.B.B.&C. Sur. Drlg. 1,317 ft.
J. L. Derrich No. 1 C. V. Harris, Sec. 617, Prosper Mangle Sur. S.D. 100 ft.
Dan Hartzell No. 1 H. D. Browning, Blk 31, Chas. Messer Sur. No. 127. S.D. 815 ft. for new mch.
Lynn No. 1 Nesbitt Rice, M.E.P.&P. Sur., Blk. 25. Prep. treat S.S.O. 1,120 ft.
Plains Prod. Co. No. 1 M. L. Graves, G. Armstrong Sur. No. 41. S.D.O. 1,365 ft.
Western Well Service Co. No. 1 T. M. Hays, C. B. Banister Sur. Drlg. 1,316 ft.

Callahan County

J. W. Dobbs Oil Corp. No. 2 Finley, Sec. 75, Bayland Orphans Home Lds. Skd. rig 50 ft.; S.D. 1,075 ft.
S. Herndon No. 1 W. L. Toland, Sec. 27, Blk. 5, S.P.R.R. Sur. D.&A. 1,190 ft.
T. Whittmer No. 1 I. N. Jackson, Sec. 15, E.T.R.R. Sur. D.&A. 1,206 ft.

Coleman County

Amlac Oil Corp. No. 5-C J. P. Morris, David Breeding Sur. Drlg. 750 ft.
Cooper Oil Co. No. 1 J. P. McCord, Sec. 519, San Augustine Sur. Drlg. 1,456 ft.

Concho County

L. G. Byerley No. 1 Mrs. G. Nayes, NW part of Sec. 1402, Abst. No. 98. Drlg. 655 ft.
Clymore Co., Inc., No. 1 Hill, J. Frederick Sur. D.&A. 2,585 ft.
National Resources No. 1 Armon, Sec 105, Blk. 72, T.&N.O. Sur. Drlg. 1,014 ft.

Eastland County

R. R. Groce No. 1 J. M. Rush, Sec. 139, Blk. 3, H.&T.C. Sur. Drlg. 805 ft.
J. L. Reeves No. 1 J. V. Parker, NW part of Wm. Van Norman Sur. Loc.
W. R. Ritchey No. 1 Weddington, Sec. 2054, T.E.&L. Sur. Drlg. 3,511 ft.
W. A. Stiles No. 1 J. Lyerla, SE part of Ussury Sur. No. 20. S.D.O. 1,455 ft.

Erath County

Wayne Chandler No. 1 Chandler, J. W. Moore Sur., Abst. 571. S.D.O. 4,794 ft.

Hamilton County

Wallace & Vickers No. 1 C. C. Lund, J. P. Bailey Sur. 51. C.O. 3,441 ft.

Haskell County

P. S. Kendrick No. 1 T. G. Hendrick, NW part of Sec. 1, A.B.&M. Sur. Loc.
E. W. Marland No. 1 Cobb, Sec. 96, Blk. 1, H.&T.C. Sur. Drlg. 3,335 ft.

Hood County

D. S. Sowell No. 1 Burton, L. Campbell Sur. Drlg. 2,685 ft.

Jones County

Bradford & Robertson No. 1 S. A. Beaty, SE part of Section 21, Blk 4, H.&T.C. Sur. Prep. test S.S.O. 3,270-75 ft.
Fain-McGaha Oil Corp. No. 1 Ferguson, Sec. 36, Blk. 15, T.&P. Sur. Rng. csg. 1,895 ft.
Fain-McGaha Oil No. 1 J. H. Harris, Blk. 79, DeWitt C.S.L. Sur., 5 mi. W. of Akard pool. Drlg. 2,670 ft.
Gillespie et al No. 1 J. D. Samples, Sec. 45, Deaf and Dumb Asylum Lds. D.&A. 3,505 ft.
Jones & Stasney No. 1 Muehlstein, Sec. 28, D.&D.D. Lds. Loc.
Noark et al No. 1 D. Southard, Sec. 8, D.&D.A. Sur., 2 mi. NW of Griffin pool. D.&A. 3,375 ft.
Phillips Pet. Co. No. 1 J. R. Montgomery, Sec. 5, Blk. 16, T.&P. Sur. D.&A. 2,622 ft.
Quality Prod. No. 1 Radford, SE¼ Sec. 20, Blk. 16, T.&P. Sur. S.D. 1,800 ft.
S. B. Roberts Co. No. 1 C. Herndon, Sec. 6, M.E.P.&P. Sur., 2 mi. S of Anson D.&A. 2,602 ft.
Shaheen & Keeler No. 1 Radford, between Sayles and Akard pools. Drlg. 2,419 ft.
A. H. Tarver No. 1 A. S. Barkley, Sec. 54, Deaf and Dumb Asyl. Lds. U.R. 3,973 ft.

Mills County

D. Lane No. 1 J. W. Spinks, J. Douglas Sur. No. 5. S.D. 1,030 ft.; csg.

Nolan County

Green & Owens No. 1 Tipton, Sec. 48, Blk. 19, T.&P. Sur. Drlg. by csg. 3,650 ft.
Plymouth Oil Co. No. 1 F. M. McClure, Sec. 49, Blk. 23, T.&P. Sur., 8,000-ft. test. Drlg. wtr. well.

Palo Pinto County

Palo Pinto O. & G. Co. No. 1 A. P. Wilbar, Blk. 59, Burleson C.S.L. Drlg. 2,500 ft.

Parker County

Brown-Gardner Bros. No. 1 Gilbert, T.&P. Sur., Abst. 1958. S.D. 2,200 ft.

Shackelford County

C. R. Schuster No. 1 L. E. DeWitt, Blk. 56, Univ. Lds. Drlg. 600 ft.

Stephens County

Geo. E. Fagg No. 1 Richardson, Sec. 5, Blk. 31, S.P.R.R. Sur.; 4,000-ft. test. Rig.
Lone Star Gas Co. No. 1 O'Conner. Drlg. 3,555 ft.
A. G. Swanson No. 1 Veale-Frost, Sec. 37, Blk. 8, T.&P. Sur. Drlg. 1,186 ft.
Whittmer O. & G. Co. No. 1 Loving, Sec. 66, B.A.L. Sur.; Ellenburger test to 4,500 ft. Rng. csg. 3,492 ft.

Stonewall County

Shell Oil Co., Inc., No. 1 A. E. Smith, Sec. 143, Blk. 1, H.&T.C. Sur.; 6,000-ft. test. Loc.

EAST TEXAS

(Border Counties)

Marion County—Other

M. D. Fitzgerald No. 1 Carrie Moseley, 330 ft. SE cor. 100-ac. tr., Wm. H. Burton Sur. R.U.
M. D. Fitzwater No. 1 Mrs. Mary Duncan, Jesse Fitzgerald Sur. Drlg. sh. 2,196 ft.
J. D. Reynolds No. 2 Terry, Wiley Coor Sur. T. Tokio 2,270 ft.; T.D. 2,330 ft.; W.O.S.R.
J. D. Reynolds et al No. 2 Terry Est., W. Coore Sur. T. ch. 1,450 ft.; drlg. 2,173 ft.

Marion County—Rodessa

Arkansas Louisiana Gas Co. No. 1 B. Sims, 467 ft. SL, C E&W L, 38-ac. tr., C. Grayson Sur. Drlg. sd. 2,655 ft.
Magnolia Pet. Co. No. 1 Duncan Est., 216 ft. NL, 1,105 ft. EL lse., T. M. Davis Sur. Tstg. 6,002 ft.
Phillips Pet. Co. No. 3 N. B. Henderson, Gillespie Sur. Drlg. ch. rk. 2,014 ft.
Texas Co. No. 5 Braden, J. Fitzgerald Sur. Drlg. 197 ft.
Tippett Drlg. Co. No. 3 Howard, J. Hanks Sur. Drlg. sdy. L. 4,282 ft.

Taylor County

F. H. Brock No. 1 L. E. Tipton, Sec. 28, Blk. 18, T.&P. Sur. Sp. and S.D.

LEGAL

IN THE UNITED STATES DISTRICT COURT FOR THE WESTERN DISTRICT OF OKLAHOMA

PHIL TABER and C. B. COLEMAN, A CO-PARTNERSHIP, DOING BUSINESS AS TABER & COLEMAN, PLAINTIFFS,
VS.
PERU OIL AND GAS COMPANY, INC., a corporation, et al., DEFENDANTS.
NO. 2022-E

NOTICE OF RECEIVER'S SALE

By virtue of an order issued out of the United States District Court for the Western District of Oklahoma on the 13th day of May, 1939, in the above entitled cause, ordering and directing the undersigned Federal National Bank of Shawnee, Oklahoma, receiver, of the leasehold estate and equipment located thereon, partly owned by the Peru Oil and Gas Company, Inc., and partly owned by various defendants in the above entitled cause, to offer for sale and sell to the highest bidder for cash said leasehold estate, together with the personal property and equipment located thereon, the undersigned, as receiver, will on the 25th day of August, 1939, at the hour of 2.00 P. M. at the front door of the Court House in the Town of Shawnee, in Pottawatomie County, State of Oklahoma, sell to the highest bidder for cash the oil and gas lease covering the following described property, located in Pottawatomie County, State of Oklahoma, to-wit:

West Half (W½) of the Southeast Quarter (SE¼) of the Northeast Quarter (NE¼) of Section 13, Township 7 North, Range 4 East of the Indian Meridian,

subject to overriding royalties (the owner of the leasehold estate being entitled to 11/16th of all oil and gas produced), together with the oil and gas well located thereon, known as the Vinson No. 2 Well, and the personal property and equipment located thereon and used in connection with the operation of said well, all bids to be reported by the undersigned receiver to said court for approval or rejection thereof, said sale to be subject to the confirmation of said court.

Dated this 19th dav of July, 1939.

FEDERAL NATIONAL BANK OF SHAWNEE, OKLA.
By R. E. LEAVITT, Trust Officer, Receiver.

Market Record of Active Oil Stocks

Compiled by Carl H. Pforzheimer & Co., 25 Broad Street, New York City, Members New York Stock Exchange and New York Curb Exchange

New York Stock Exchange

1939 High	1939 Low	Week ending July 22 High	Week ending July 22 Low	Week ending July 22 Close	Stocks—	Total shares outstanding	Par value	Latest dividend	Payable or last paid	Dividends paid in 1938	Com. sh. earn. 1938	Com. sh. earn. 1937	1938 High	1938 Low	1937 High	1937 Low
70	50	65⅝	64⅛	64⅛	Amerada Corp.	788,675	N.P.	50cQ	7-1-39	$2.00	$2.07	$3.04	78	55	111⅞	51⅛
23½	18⅛	20⅝	20	20¼	Atlantic Refining	2,603,999	$25	25cQ	6-15-39	1.00	1.40	3.51	27⅝	17⅝	37	18
21⅛	10⅞	14½	13	14¼	Barber Asphalt Co.	390,223	$10	75c	12-16-37	....	—.85	1.91	23⅝	12⅛	43⅝	10⅛
19½	12⅝	14⅝	13½	14⅛	Barnsdall Oil Co.	2,250,344	$5	25cQ	8-1-39	1.00	1.26	.85	21⅝	10⅛	35¼	10
9¼	7	7⅞	7½	7⅝	Consolidated Oil Corp.	13,751,846	N.P.	20cQ	8-15-39	.80	.55	1.48	10⅝	7	17⅜	7
31½	20½	22⅜	21⅝	22⅜	Continental Oil of Delaware	4,682,581	$5	25cQ	9-28-39	$1.00	1.10	2.98	35⅝	21⅛	49	24
8⅝	4⅝	6½	5⅝	6¼	Houston Oil (new)	1,098,618	$25	...	10-17-30	....	.83	.94	9⅜	5	17⅝	4⅝
20¼	12⅝	13½	12⅜	13	Lion Oil Refining	435,815	N.P.	25cQ	4-20-39	1.00	2.09	2.17	26½	15⅝	34	12½
16½	11⅛	13⅝	12½	13⅝	Mid-Continent Petroleum	1,857,912	$10	25c	6-1-39	.60	.56	2.86	22⅝	12¼	35⅝	14
14⅞	10⅝	11	11	11	Mission Corporation	1,379,245	$10	25c	6-29-39	1.00	1.04	1.31	17⅜	10⅝	34	15
15½	6½	9⅛	8	9	National Supply	1,155,517	$10	$2 pf.‡	12-22-37	....	—.79	4.90	28	12½	41⅝	17⅝
10¼	6⅝	7⅛	6⅝	7⅛	Ohio Oil Co.	6,563,377	N.P.	20c	12-15-38	.20	.25	1.30	14⅞	8⅛	22⅞	8
11⅞	8⅞	9¼	8⅞	9	Pacific Western Oil	1,000,000	N.P.	50c	12-20-38	.50	1.22	1.39	15⅞	10¼	29⅝	11⅝
6⅜	5	..	..	..	Pan American Pet. & Trans.	4,702,945	$5	$1*	12-21-37	....	.08	1.18	9¼	6¼	17⅛	7
43⅜	31⅛	37	36	36⅝	Phillips Petroleum	4,449,052	N.P.	50cQ	6-1-39	$2.00	2.03	5.42	44⅜	27¼	64	30⅛
22½	17⅛	20⅜	19⅛	19⅞	Plymouth Oil Co.	1,006,200	$5	35cQ**	6-30-39	1.40	2.59	2.85	25⅝	15	29⅞	13
11¼	6⅝	7⅛	6⅞	7⅝	Pure Oil Co.	3,982,031	N.P.	25c	12-1-37	....	.38	2.15	13½	8¼	24⅜	8⅝
10¼	6⅝	8⅛	7⅛	7⅞	Richfield Oil Corp.	4,010,000	N.P.	50c	12-21-38	.50	.51	.35	9⅞	5	6⅛	4⅛
22⅜	16⅛	19	18¼	18¼	Seaboard Oil of Delaware	1,244,383	N.P.	25cQ	6-15-39	1.00	1.52	1.97	27½	15½	54¼	16
15⅛	10⅛	11⅝	10⅞	11⅛	Shell Union Oil	13,070,625	N.P.	25c	7-20-39	.70	.72	1.44	18⅜	10	34⅜	14⅜
29½	18⅛	21	19¼	19⅝	Skelly Oil	995,349	$15	50c	12-15-38	1.00	2.27	6.07	34⅜	18½	60⅝	26⅛
13⅜	10⅛	12	11⅝	12	Socony-Vacuum	31,206,071	$15	25cSA	3-15-39	.50	1.29	1.82	16⅜	10⅝	23¼	13
30⅛	25⅛	27⅝	26	26⅝	Standard Oil of California	13,004,153	N.P.	30cQ†	6-15-39	1.40	2.22	3.17	34⅞	25½	50	27½
29½	23¼	25⅝	24⅝	25⅛	Standard Oil (Indiana)	15,272,020	$25	25cQ	6-15-39	1.00	1.82	3.66	35½	24¾	50	26½
50⅜	46	..	..	..	Standard Oil of Kansas	106,190	$10	$2	12-8-38	2.00	5.25	6.93	50¼	32½	43	30⅝
53⅛	40⅛	45	41⅞	43⅝	Standard Oil of New Jersey	26,618,065	$25	50c§	12-15-38	$1.50	2.86	5.64	58⅝	39⅝	76	42
66	46	51½	50¼	50¼	Sun Oil	2,316,484	N.P.	25cQ	6-15-39	1.00	1.07	3.86	65½	45	77½	44½
3¼	2	2⅛	2	2⅛	Superior Oil Corp.	1,388,979	$1	10c	12-28-38	.10	.24	.32	4¼	1⅝	7⅝	1½
48¼	34⅞	39	36⅛	37½	Texas Corp.	10,876,882	$25	50cQ	7-1-39	2.00	2.13	5.02	49⅝	32⅝	65½	34⅝
5⅝	3½	4¼	4	4⅛	Texas Gulf Producing Co.	888,143	N.P.	10c	6-15-39	.15	.86	.05	5⅜	2⅝	9⅝	2
10⅛	7½	8	7⅝	8	Texas Pacific Coal & Oil	888,236	$10	10c	6-1-39	.40	1.16	1.11	12½	7	16⅝	5⅜
14¼	11¾	12¼	12	12⅛	Tide Water Associated	6,375,253	$10	25c	6-1-39	1.00	1.28	2.08	15⅝	10½	21⅝	13⅛
19⅝	16⅛	17	16¼	16⅝	Union Oil of California	4,660,270	$25	25c	8-10-39	1.20	1.47	2.58	22½	17⅛	28¼	17⅛
23⅝	20⅛	21¾	20½	21	Union Tank Car Co.	1,177,381	N.P.	30cQ	3-1-39	1.30	1.16	1.70	23½	20	31½	22
3⅝	2½	2⅝	2⅝	2⅝	Wilcox Oil & Gas	487,568	$5	....	5-10-28	....	.52	.24	3½	1⅝	6⅛	1⅜

*Payable in 3½ per cent notes. †Includes extras. ‡One-tenth share $2 preferred stock. §Also 1⅛ per cent stock dividend. ‖Also right to subscribe to bonds. ¶Also 1 per cent in stock. **Also 2 per cent in stock. —Deficit.

New York Curb Exchange

1939 High	1939 Low	Week ending July 22 High	Week ending July 22 Low	Week ending July 22 Close	Stocks—	Total shares outstanding	Par value	Latest dividend	Payable or last paid	Dividends paid in 1938	Com. sh. earn. 1938	Com. sh. earn. 1937	1938 High	1938 Low	1937 High	1937 Low
9	5½	6⅝	6	6⅜	American Republics Corp.	1,308,049	$10	10c	7-11-38	$0.10	—$0.22	$0.27	11⅝	5	10	6⅝
7¼	3½	4	3⅝	4	Bridgeport Machine Co.	270,000	N.P.	$1.25	12-30-37	....	—.14	1.90	10¼	4⅜	21⅝	7
34⅜	27¼	32¼	28	28	Buckeye Pipe Line Co.	200,000	$50	50c	9-15-39	2.00	2.36	4.02	39	22½	51½	36
130	110	..	..	..	Chesebrough Mfg. Co.	120,000	$25	$1.50Q†	6-26-39	6.50	5.32	6.73	128	97	112	95½
9¼	5½	6⅛	5½	5⅝	Cities Service (new)	3,704,067	$10	....	6-1-32	....	.23	1.02	11	5⅛	5⅝	1⅝
1½	½	1⅝	1⅜	1½	Cosden Petroleum	462,551	$1	....	....	....	....	.19	2⅝	⅝	5½	1⅜
23⅜	16⅝	20¼	18⅝	20¼	Creole Petroleum	6,975,383	$5	50cSA†	6-15-39	1.00	1.64	1.61	27½	17½	38⅝	20¼
7⅛	3⅝	4⅝	4⅛	4⅛	Darby Petroleum	351,390	$5	25cSA	1-15-39	.50	....	1.3a	10¼	5½	18⅝	6⅜
2⅝	1⅝	..	..	..	Derby Oil & Refining	263,162	N.P.	....	....	....	—.91	1.34	3½	1½	8⅝	2¼
20	15½	17	15½	17	Eureka Pipe Line	50,000	$50	50c	8-1-39	3.00	—.37	—.12	31	16	47½	24½
40	29¼	33½	32	32⅜	Gulf Oil Corp.	9,076,202	$25	25cQ	7-1-39	1.00	1.43	3.51	46⅜	33	63½	32
69⅝	53	60	57⅝	60	Humble Oil & Refining	8,987,840	N.P.	37½c	7-2-39	3.00	3.98	5.22	72⅝	56	87	54⅝
17	14	15⅛	15	15⅛	Imperial Oil of Canada	26,965,078	N.P.	62½cSA†‡	6-1-39	1.25	.96	.98	19½	14⅛	24⅛	14½
7	5⅝	..	..	..	Indiana Pipe Line	300,000	$10	30c	5-15-39	.50	.47	1.03	9⅜	6	15	5⅜
27½	20¼	22⅝	22½	22⅝	International Petroleum	14,324,088	N.P.	1.00†‡	6-1-39	2.50	1.96	...	31¼	21	39½	23⅛
3½	2¼	2⅝	2¼	2¼	Kirby Petroleum Co.	500,000	$1	10c	4-15-38	.10	.14	.17	5	2⅛	8⅝	2⅝
9½	7⅛	9¼	9	5	Lone Star Gas	5,553,747	N.P.	20c	4-20-39	.60	.88	1.14	10⅜	6⅝	14⅛	5⅛
7⅜	4⅞	5¼	4⅝	5	Louisiana Land & Exp.	2,977,449	N.P.	10cQ	3-15-39	.45	.45	.58	9⅜	6½	15⅛	6⅝
17	14⅝	14⅝	14⅝	14⅝	Margay Oil Corp.	149,943	N.P.	25cQ	4-10-39	1.00	2.28	3.26	24	16	33½	17
8⅜	7	7⅜	7⅛	7⅛	Midwest Oil Co.	998,474	$10	50c	12-15-38	1.00	.93	1.14	9⅜	6⅝	14⅜	6¼
5½	4⅞	5¼	4⅞	5¼	Mountain Producers	1,593,584	$10	30cSA	6-15-39	.60	.62	.76	5⅝	4½	7⅞	4⅛
13¼	11¼	12⅜	11⅜	12¼	National Fuel Gas	3,810,183	N.P.	25cQ	4-15-39	1.00	.84	.96	14⅝	11½	19½	12
8½	7⅛	8½	8⅜	8½	National Transit	500,000	$12.50	35c	6-15-39	.75	.88	1.19	9¼	6½	12½	7¼
1⅝	1½	1½	1½	1½	New Mexico and Arizona	1,000,000	$1	1c	12-1-37	....	.02	.02	2⅜	1½	5	1⅛
4⅞	4	..	..	..	New York Transit	100,000	$5	15c	4-15-39	.25	.16	.49	4½	3½	5⅜	3⅜
6	4½	..	..	..	Northern Pipe Line	120,000	$10	15c	6-1-39	.35	.24	.78	6	4	12⅝	5⅝
7⅝	4⅜	5⅝	5⅝	5⅝	Pantepec Oil	2,857,000	$1	....	.....	....	....	....	7⅝	3½	9⅝	2⅝
2⅝	1⅜	2	2	2	Root Petroleum Co.	336,045	$1	25c	2-1-37	....	.17	—.17	4½	1⅝	12⅝	2
3	2	2⅛	2⅛	2⅛	Ryan Consolidated	298,931	N.P.	....	.....	....	.29	.46	4	2⅛	6½	2⅛
4	3½	..	..	..	Southern Pipe Line	100,000	$10	15cSA	3-1-39	.30	—.27	.85	5⅝	3¼	7¼	3⅝
34⅞	27⅝	31	30½	30½	South Penn Oil	1,000,000	$25	37½cQ	3-31-39	1.75	1.44	4.64	39	28⅝	56	35
19⅝	18	19	18½	18	Southwest Penna. Pipe Lines	35,000	$50	50cQ	7-1-39	2.00	—.41	.95	22¼	16½	42	20
18⅝	17⅛	18¼	18	18¼	Standard Oil of Kentucky	2,004,790	$10	25c	6-15-39	1.25	1.45	1.60	18⅝	15	21½	14⅝
11¼	6	11¼	9⅝	11¼	Standard Oil of Nebraska	161,403	$25	25c	3-29-37	....	—.69	—.58	8⅝	5½	13⅝	8
21½	17	22⅝	21½	22¼	Standard Oil of Ohio	753,740	$25	25c	3-15-39	1.00	1.81	3.67	22⅝	16¼	45	16
2⅝	1⅞	2⅜	2	2⅜	Sunray Oil	2,007,076	$1	5c	4-27-39	.05	.22	.42	3¼	2	4⅞	2
4	2⅝	3	3	3	Texon Oil & Land	936,024	$2	10c	6-30-39	.60	.56	.51	5¼	3½	7⅝	2
5½	2½	3⅞	3½	3⅝	Transwestern Oil Co.	750,000	$10	....	.....	....	—.12	.48	7⅝	4¼	13⅞	4⅝
3⅝	1⅝	2	1⅝	2	United Gas Corp.	7,818,959	$1	...	.....	....	—.51	.25	5¼	2⅝	13⅝	3

†Includes extras. ‡Payable in Canadian funds. §Of which $1 was in preferred stock. —Deficit.

Personal Paragraphs

CAPT. T. REIBER, chairman of Texas Co., was among oil men on the inaugural paid-passenger flight of the Pan American Airways' Dixie Clipper, flying from New York to Marseille. **AMON G. CARTER**, Fort Worth, Tex., publisher and independent oil producer, was another.

EUGENE HOUDRY, French engineer and inventor of a cracking process that bears his name, was in Beaumont, Tex., this week inspecting the newest and largest unit built according to his designs. Mr. Houdry also visited a smaller installation which had just completed a 135-day continuous run. Both units are in the Magnolia Petroleum Co. plant at Beaumont and together will handle 30,000 bbl. a day of raw charge.

H. C. SKIDMORE, independent oil operator of Shreveport, La., is spending a vacation in New York.

DAVID B. MacDANIEL, independent operator of Houston, Tex., is on a business and pleasure trip to New York.

HUGO KAMB, geologist for Arkansas Fuel Oil Co., Shreveport, La., has returned from a vacation spent with his family in Minnesota.

T. W. RHODES, chief petroleum engineer of the Gulf Oil Corp. Fort Worth, Tex., offices, is taking a motor trip up the Atlantic seacoast and in Canada.

A. P. ROWLAND has been appointed superintendent of the Waco division of Community Natural Gas Co.-Texas Cities Gas Co. He joined the Lone Star system in 1924 and soon became construction superintendent.

HOMER EASTERWOOD, N. A. TEDFORD and **FRED M. WOOD** have organized the Commercial Drilling Co. and Easter-Wood Production Co. to carry on drilling and producing operations in the Corpus Christi area in Texas.

DR. CHARLES M. KNEIER, who aided in preparation of a report on the oil industry in Illinois and who has represented that state in the Interstate Oil Compact Commission, has resigned as research director of the Legislative Council of Illinois to resume his former post as professor of political science in the University of Illinois.

R. C. GEIGER, assistant manager; **J. C. GIBSON**, chief engineer; **E. PEREZ**, chief counsel, and **R. I. DODSON**, representative, of Tropical Oil Co., sailed from New York for Colombia last Friday.

ARTHUR F. CORWIN, vice president and director of Socony-Vacuum Oil Co., Inc., was honored in New York last week by fellow officers and directors upon completion of 40 years of service. Mr. Corwin began his career in 1899 with South Penn Oil Co., then a subsidiary of Standard Oil Co. of New Jersey. After the dissolution decree in 1911 he remained with Standard of New Jersey in its crude oil production department until 1926, when he joined Standard Oil Co. of New York which later consolidated with Vacuum Oil Co. into Socony-Vacuum.

Do You Remember?

From The Oil and Gas Journal Files

25 YEARS AGO

Senator Gore of Oklahoma has introduced a bill in the U. S. Senate which would make it unlawful after January 1, 1915, for a pipe line company to transport from one state to another any oil which it owns.

Steel-tank building in Oklahoma in the summer is a hot and miserable job, and tank builders are talking of striking unless they are given a 4-hour working day at from $4 to $6 per day, according to the skill of the worker.

There are 29,177 oil wells in Oklahoma. Over 10,000 of these are in the Nowata-Chelsea district; over 9,000 in Washington and northern Tulsa counties, and 5,764 in the counties in the Creek Indian Nation.

20 YEARS AGO

The Atlantic Refining Co. is building an $8,000,000 plant in Brunswick, Ga. It will have a capacity of 10,000 bbl. of crude per day. Brunswick is an Atlantic coastal city.

Everett Carpenter, chief geologist for the Empire Companies, resigns to associate himself with Alfred J. Diescher. He is succeeded by L. C. Snider.

Amelita Galli-Curci and her Okmulgee associates are completing their second well in Section 29-14-11, Okmulgee County, Oklahoma. It looks good for 150 bbl. per day.

10 YEARS AGO

The Greater Seminole field in Oklahoma, including the St. Louis, Asher, and Sasakwa pools, is producing 397,869 bbl. per day. Santa Fe Springs, California, produces 295,000 bbl. per day.

Louisiana Gulf Coast fields produce 18,024 bbl. per day. The largest is Hackberry with 4,603 bbl.

P. S. MAGRUDER, of General Petroleum Corp.; **L. V. CASSADAY**, of Lomita Gasoline Corp., and **GEORGE L. TYLER** were installed recently as president, vice president and secretary-treasurer, respectively, of the California Natural Gasoline Association.

JOHN R. OWER, for the past 2 years with the Petroleum and Natural Gas Division of the Alberta Lands and Mines Department in Calgary, has left for New Zealand, where he will be associated with the Superior Oil Co. of California in projected development work.

WILLIAM H. VAUGHAN, designer of the Vaughan process for recycling gas in the Long Lake and Cayuga oil and gas fields, was honored last Friday at a Chamber of Commerce luncheon in Palestine, Tex. Talks were given by EARL PIERCE, president of the chamber; CLYDE HANKS, president of the Royall National Bank; Representative HAROLD L. KENNEDY, and ORIN CUTTER.

A. L. ACKERS, division geologist of Stanolind Oil & Gas Co. for West Texas and New Mexico, with headquarters in Fort Worth, has been placed in charge of subsurface geological work in the exploration department of the company's general offices in Tulsa. Mr. Ackers will assume his new duties about August 1. FRANK H. SCHOUTEN, formerly district geologist in Midland, will succeed Mr. Ackers in the Fort Worth office.

JUDGE CLAY TALLMAN, general attorney for Stanolind Oil & Gas Co., Tulsa, is spending part of his vacation on the West Coast, with the World's Fair on his itinerary.

FRANK M. FARLEY, GOLDYNA PARRISH and **ROBERT B. VIOLETTE**, all of Fort Worth, Tex., have obtained a charter for Western Minerals, Inc. Its offices will be in Fort Worth.

WILL C. GRANT, public relations director for Lone Star Gas Co., Dallas, Tex., gave a talk on the principles of advertising before the Dallas Advertising League at a luncheon last week in the Adolphus Hotel.

WALLACE E. HAWKINS, of Dallas, Tex., has been appointed general counsel of Magnolia Petroleum Co. and Magnolia Pipe Line Co. Mr. Hawkins has been a member of the legal department of the two companies since February 15, 1925. He succeeds W. H. FRANCIS of Dallas, retired.

G. A. SADLER, of the Texas Railroad Commission, went to Washington, D. C., last week and conferred with Secretary Harold L. Ickes and officials of the Petroleum Conservation Division in an endeavor to get additional tender boards in Texas and Louisiana to enforce the Connally hot oil law. Mr. Sadler urged that boards be established in Houston, Baton Rouge and New Orleans. "I am definitely opposed to federal regulation of the oil industry," Mr. Sadler declared, adding he believed vigorous enforcement of the Connally law would be sufficient.

XUM

PAUL BENEDUM, of Benedum & Trees, independent operators of Houston, Tex., left last week for a vacation in Wisconsin.

C. L. MORGAN, geologist for Lion Oil Refining Co., has been transferred from the Shreveport office, which is being closed, to Tyler, Tex.

E. L. CASTER, Shreveport, La., Arkansas Fuel Oil Co. geologist, accompanied by Mrs. Caster, is on a vacation trip to the Mississippi Gulf Coast.

B. F. JONES, Republic Production Co., San Angelo, Tex., with Mrs. Jones and their daughters, Betty and Peggy, is on vacation in South and East Texas.

WILLIAM HARVEY EMMONS, head of the department of geology at the University of Minnesota, is spending a short time in Tulsa while revising his book, "Geology of Petroleum."

J. M. NISBET has rejoined Cities Service Oil Co. as manager of the land and geological departments. Mr. Nisbet resigned that post January 1, 1937, to give his personal attention to his citrus property at Upland, Calif.

W. R. BOWDEN, deputy supervisor of the Oil and Gas Division of the Texas Railroad Commission's District 8 office in Midland, Tex., has returned from a vacation trip to Fort Collins and Grand Lake, Colo. He was accompanied by Mrs. Bowden.

B. E. PARSONS, vice president, director and manager of the production department, and A. L. KNIPPING, JR., manager of the operating department of the marketing division of General Petroleum Corp., recently completed service records, the former of 25 years and the latter 20.

Fired a Katy Engine

It may seem queer, but although O. L. Stevenson, district superintendent in Kansas for Gulf Oil Corp., has a variety of things to be proud of in his career as an oil man, the period concerning which he confesses to a feeling approaching vanity is the one when he was a fireman on a Katy freight engine out of Parsons, Kans. He was 21 when he took the job, and friends predicted a boy who had just worked on a farm and gone to school wouldn't stand up under the severities of railroad firing. He did it 3 years—and liked it.

O. L. STEVENSON

But oil lured young Stevenson, and in January 1914 he went to work as a roustabout for the Gypsy Oil Co., a Gulf subsidiary, in the Glenn pool, Oklahoma. Three years later he was made a farm boss at Yale, Oklahoma, and in a few months he was promoted to superintendent. In 1918 he became district superintendent of the Yale area. In the years following he was shifted to various points as district superintendent. A special assignment in 1931 took him to South Dakota to supervise the drilling of a wildcat well. That finished, the company put him in charge of its operations at Seminole, Okla. In 1934 he was transferred to his present responsible post. This year he is rounding out a quarter-century of continuous service with Gulf.

Mr. Stevenson enjoys almost all athletic sports, but he gets his chief delight out of slipping away to his farm near Eldorado, Kans., where horses and dogs greet him. He and Mrs. Stevenson reside in Chase Kans. They have three sons.

E. L. PELHAM, Shreveport, La., operator, is on a vacation trip in New York.

A. D. CARLTON, of San Francisco, has been appointed assistant traffic manager of Standard Oil Co. of California.

GUY D. ADSIT, of the land department of the Phillips Petroleum Co. in Shreveport, La., is back from a vacation spent in fishing on the Gulf Coast.

A. K. TYSON, chief geologist in the Gulf Coast district for Continental Oil Co., in Houston, Tex., is spending his vacation on the West Coast.

W. E. GRAY, district drilling superintendent of Lago Petroleum Corp., left New York last week for Venezuela aboard the Santa Elena. He was accompanied by Mrs. Gray.

L. E. McARDLE, Shreveport, La., operator, and DICK ANDRADE and DON ROGERS, of Dallas, have formed the Mar Marketing Corp., a pipe-line concern with headquarters in Corpus Christi, Tex. The three men own a refinery there.

G. L. CLINE, president of the Ohio Independent Oil Co., Springfield, has been elected a member of the board of directors of the Ohio Petroleum Marketers' Association. He will serve out the unexpired term of Charles F. Heinzelman, of Chillicothe, who died last February.

ROBERT M. KLEINPELL, who maintained offices in Bakersfield, Calif., for the past several years as consulting geologist and petroleum engineer, has gone to Manila, Philippine Islands, for the National Development Co., which is making a minute survey to determine oil production possibilities in the islands.

ALVIN RICHARDS, chief counsel for the Pure Oil Co.'s southwestern producing division, was chosen vice chairman of the Mineral Section of the American Bar Association for 1940 at its recent convention in San Francisco. His election automatically puts him in line for the chairmanship in 1941. Mr. Richards has been active in establishing the proration program now observed in Oklahoma and Kansas.

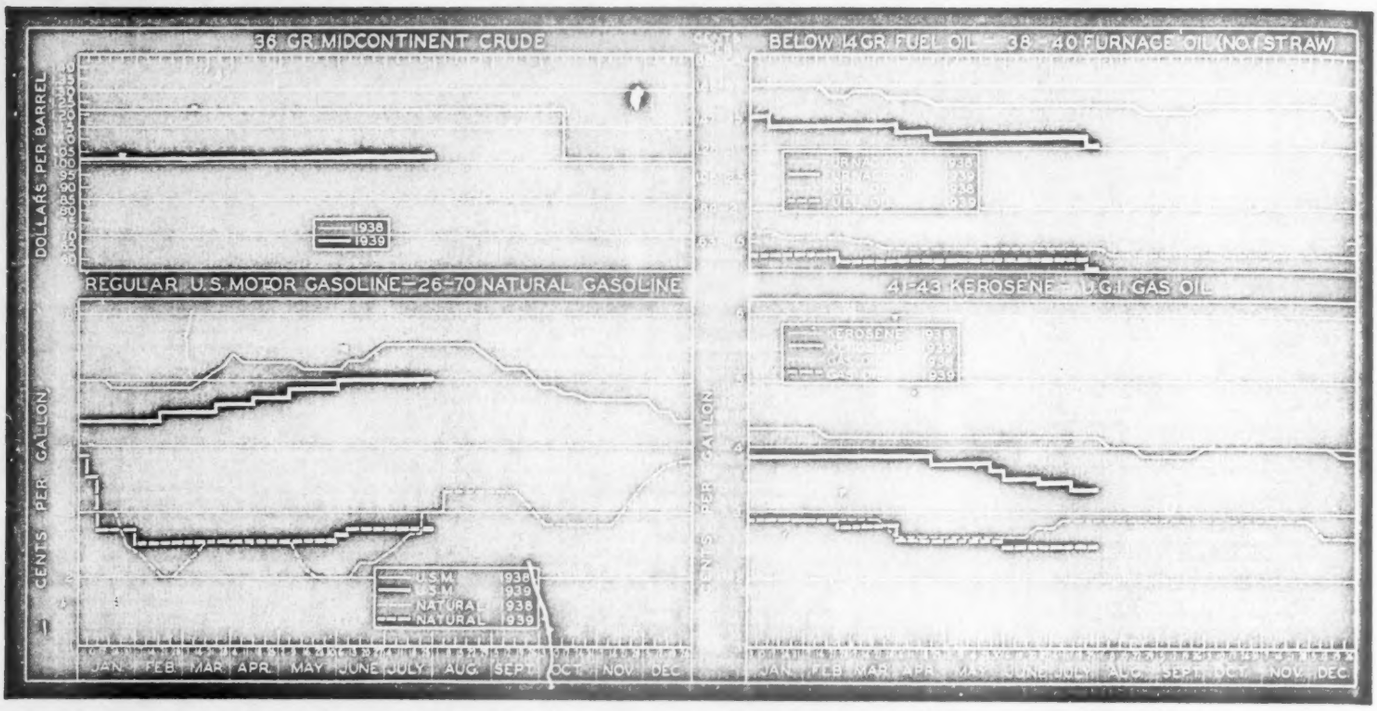
P. W. LAMBRIGHT has been appointed general manager of Romano-Americana, S.A., Standard of New Jersey operating subsidiary in Rumania. RALPH P. BOLTON, who previously served as manager of Romano-Americana, has been transferred from Bucharest to The Hague. Mr. Lambright has filled other Standard of New Jersey foreign assignments in Argentina and was with Standard-Vacuum for a time in the Dutch East Indies.

SHIFTS: ARNOLD HEGWER, engineer Texas Co., from Fairfax, Okla., to Sandoval, Ill.; E. A. FATH, Deutsche Vacuum Oel A-G Semperhaus B, from Hamburg, Germany, to Socony-Vacuum Oil Co., Inc., Cairo, Egypt; J. F. HENDRICKSON, engineer Phillips Petroleum Co., from Amarillo, Tex., to Phillips, Tex.; WALTER VAN NORMAN, vice president Bankline Oil Corp., from Houston, Tex., to Los Angeles, Calif.; W. C. ADAMS, geologist Deep Rock Oil Corp., from Robinson, Ill., to Morgan City, La.; U. T. HILL, engineer Cities Service Oil Co., from East Chicago, Ind., to Gary, Ind.; ANATOLE SAFONOV, geologist Ohio Oil Co., from St. Joseph, Mo., to Leavenworth, Kans.; J. D. McCLURE, geologist Barnsdall Oil Co., from Tulsa to Holland, Mich.; K. M. WILLSON, geologist Mid-Continent Petroleum Corp., from Tulsa to San Antonio, Tex.; E. D. WATSON, engineer Shell Pipe Line Co., from Douglass, Tex., to Henderson, Tex.; J. F. SCOTT, engineer Carter Oil Co., from Fairfax, Okla., to St. Elmo, Ill.; WILSON H. COCHRAN, engineer General Crude Oil Co., from Hamlin, Tex., to Houston, Tex.; R. N. BILLS, engineer Amerada Petroleum Corp., from Kinder, La., to Lake Charles, La.; C. ELLIS, superintendent Socony-Vacuum Oil Co., Inc., from Temple, Mich., to Byron Center, Mich.; EARL C. JUPIN, consulting geologist, from Salem, Ill., to Centralia, Ill.

JOHN M. LOVEJOY, president of Dominican Seaboard Oil Co. and other subsidiaries of Seaboard Oil Co. of Delaware, was host at a reception in New York last week for President Trujillo of the Dominican Republic. R. OGARRIO, vice president of Texas Co., was among New York oil men attending.

HORACE M. CONDLEY, formerly with Hickok Oil Corp., Cisco, Tex., has opened an office in Abilene, Tex., as an oil tax consultant and public accountant. His duties as auditor and business manager for the Arab Gasoline Co., Cisco, branch of Hickok Oil Corp., will be taken over by S. H. NANCE, Cisco.

J. S. WATSON, of the production treasury department of Shell Oil Co., Inc., formerly in charge of oil and gas accounting and prominently identified with the Petroleum Accountants Society and California Natural Gasoline Association, has resigned upon completion of 20 years' service. J. U. STAIR, vice president of Shell, presented him with a wrist watch and a 20-gage shotgun on behalf of his associates.


36 GR. MIDCONTINENT CRUDE
DOLLARS PER BARREL
1938
1939
REGULAR U.S. MOTOR GASOLINE—26-70 NATURAL GASOLINE
CENTS PER GALLON
U.S.M. 1938
U.S.M. 1939
NATURAL 1938
NATURAL 1939
JAN. FEB. MAR. APR. MAY JUNE JULY AUG. SEPT. OCT. NOV. DEC.
BELOW 14 GR. FUEL OIL—38-40 FURNACE OIL (NO. 1 STRAW)
41-43 KEROSENE—U.G.I. GAS OIL
KEROSENE 1938
1939
JAN. FEB. MAR. APR. MAY JUNE JULY AUG. SEPT. OCT. NOV. DEC.

Representative Mid-Continent Quotations on Crude Oil and Refined Products, Basis Oklahoma (Group 3)

Soaring Demand for Gasoline Fails to Carry Prices to Profitable Level

By T. F. SMILEY

There were few grounds for dissatisfaction with the Group 3 gasoline market this week. Demand was soaring, Mid-Continent stocks were in reasonably good position, and all that. In fact, there was only one lack worth mentioning, to-wit: there was no money in it.

Notwithstanding the heaviest consumption in history, the prices at which contract shipments were being made barely passed the break-even point. In the spot market the situation was even more joyless. Brokers were paying five-eighths of a cent below the commonly recognized contract prices and were selling to jobbers at an advance of a quarter-cent, or perhaps only an eighth-cent. Which is to say that while contract movement of regular-grade gasoline was for the most part at 5 cents a gallon, brokers were buying it in the open market for 4⅝ cents and selling it to jobbers at 4⅛ or 4⅝ cents.

Cheaper to Buy Than Make It

Some of the larger independent refiners were cutting back their own plant operations and buying gasoline instead of making it. One important refiner said he was turning away long-time spot-market customers rather than accept the loss which business at available prices involved. Some refiners said that in spite of the slashed prices at which much spot business was being done, they themselves were demanding—and getting—5 cents for regular-grade gasoline and 4¼ cents for low-octane material (62 and below). They added, however, that even these prices represented virtually profitless gallonage.

Likelihood of better prices in the Mid-Continent territory this summer was characterized as slender. If refiners are to get prices commensurate with the unprecedented consumption now prevailing the increase will have to come before the middle of August, according to common opinion. One ray of hope was seen in the moderately declining trend of refinery crude runs and the size of gasoline stocks in the Mid-Continent as compared with those in other areas. While the nation's stocks were about 1 per cent higher than they were in mid-July of 1938, Mid-Continent stocks were almost 8 per cent lower.

Natural gasoline displayed increased sturdiness, with quotations tightening. There was brisk buying by Gulf Coast refiners and there was an unexpected bulge in refinery purchases from the interior areas of Louisiana, Arkansas, and Texas. Most of this demand was for 26-70 material, a larger proportion of this grade being asked for than usual. Export inquiries and orders continued in satisfactory volume. Demand for part cargoes of 18- to 20-pound natural for August lifting was active.

Refined Oil Market Barometer

Although gasoline demand from world's fair tourists is somewhat below expectations, consumption is reaching record-breaking heights. Prices, owing largely to excessive stocks and refinery runs, are at almost profitless levels in many areas. Light fuels and kerosene are firmer on Atlantic Coast, but soft in interior territory.

MID-CONTINENT. Gasoline active, but prices soft. Light fuels easy. Naturals firm.

EAST COAST. Kerosene and light fuels steadier. Gasoline spotty. Residual oils easier.

GULF COAST. Gasoline steady. Kerosene firm. Burner, diesel, and fuel oils strong.

CALIFORNIA. Export gasoline down, but little moving. General market soft.

PENNSYLVANIA. Gasoline fairly steady. Bright stock improving. Neutrals holding.

CHICAGO. Gasoline movement heavy, but prices irregular. Kerosene soft.

Staying Out of Market

Most of the large manufacturers were reported to be out of the market at current prices, 2⅝ cents for 26-70 in both Oklahoma and Texas. They were quoting ahead of the present market, however, for future business.

Movement of lubricants was maintained at a high level, but increased price-cutting was reported. Demand for neutral oils has been growing faster than that for bright stock owing to the fact that engines of the newer cars require a lighter lubricant than the old type; but there is a noticeably rising call for finished motor oils, jobbers having discovered it costs them less to buy the ready-to-sell product than it does to do the blending themselves.

The light fuels were so soft that some buyers apparently were holding back orders for fall material in the hope that they might get better prices. Notwithstanding the general easiness of the furnace oils the No. 1 and No. 2 straw were reported rather difficult to find. Kerosene was extremely dull, with concessions from ruling quotations easy to get. Heavy fuel was a little less active.

Upward Trend in Burning Oils Reported in Eastern Market

By H. STANLEY NORMAN

NEW YORK, July 25.—Anticipated demand for fall heating oils and the desire of buyers to cover their early requirements at prevailing prices exerted an upward pressure on markets last week for kerosene, Nos. 2, 3 and 4 fuels.

Boston prices for Nos. 2, 3 and 4 burning oils in tankcars moved ahead a quarter of a cent while kerosene was elevated there an eighth of a cent per gallon.

The tankcar price of Nos. 2, 3 and 4 fuel oil at New York was raised an eighth of a cent per gallon and shore plant diesel fuel an eighth of a cent.

The increase of heating oil prices at Boston and New York was instituted by Socony-Vacuum Oil Co., Inc., and was immediately followed by Standard Oil Co. of New Jersey marketing subsidiaries.

On July 18 the tankcar price for Nos. 2, 3 and 4 fuel oil was raised an eighth of a cent at New York making the current quotation 3⅛ cents per gallon. On July 19, the tankcar price of Nos. 2, 3 and 4 oil was raised a quarter of a cent to 4 cents per gallon and kerosene was advanced an eighth of a cent to 4⅜ cents. Shore plant diesel oil was raised an eighth of a cent at New York to 3⅞ cents. There was no change in kerosene at Boston.

Motor fuel prices throughout the eastern territory were approximately unchanged. Tankcar sellers in the New York district are asking 6 to 6¼ cents per gallon for 70-octane motor fuel and the Gulf Coast market for 72-octane (leaded or unleaded) continues at about 5¼ cents.

A local price disturbance in Vermont brought about a reduction of 1½ cents in the tank-wagon price there on July 14. Socony-Vacuum lowered its tank-wagon price at Burlington, Vt., to 11½ cents per gallon, including state and federal taxes.

Motor fuel marketing conditions in Kings County (Brooklyn) and Queens County, New York, have improved sufficiently in the past week to permit reinstatement of the resale price maintenance contracts between Socony-Vacuum and its dealers. In announcing reinstatement of the resale price contracts under the Feld-Crawford Act, the company said: "Since we suspended resale price maintenance on June 30 in Kings County and on June 1 in Queens County in respect to Mobilgas and Mobilgas Special, we find that most of the dealers in these products are selling at 6 gal. for 98 cents, including taxes. We feel that conditions justify our resumption of resale price maintenance under the Feld-Crawford Act and are accordingly establishing the following authorized minimum resale prices effective July 21, 1939: Mobilgas, 18.4 cents per gallon, or 6 gal. for 98 cents, including taxes; Mobilgas Special, 18.4 cents per gallon, including taxes. The prices at stations operated by us and our subsidiaries in these counties will necessarily be adjusted to this level."

Motor fuel consumption in this area during July has been reasonably high with most distributors reporting an increase of 5 to 10 per cent over the same period last year. However, two weeks of only moderately warm temperature have tended to curtail over-the-week-end motoring to beaches and other retreats from midsummer heat. The curtailment of local week-end driving has been more than offset in this section by an increase in travel by out-of-state visitors to the New York World's Fair, although dealers continue to complain that consumption by fair motorists is below expectations—a confidence that was perhaps too ambitious.

Reports were current that 65-octane motor fuel occupied a weak market position in New York. One or two suppliers were reported offering the low-octane material at 5¾ cents per gallon in barges. The tankcar market ranges around 6 to 6⅛ cents per gallon while a few in a more stable stock position continue to ask 6¼ cents.

Cargo prices for light fuels on the Gulf Coast moved ahead an eighth of a cent per gallon early last week and a few suppliers started asking higher figures as early as the second full week in July, anticipating an upturn in demand for the fall season. Practically all Gulf Coast refiners are currently quoting 3⅛ cents per gallon for No. 2 fuel oil compared to a low of the previous range at 2⅝ cents. Movement of kerosene and other fuel oils is gaining momentum in the territory north of New York, particularly that served most economically by the inland waterways. Within a month, provided the summer season is no longer than normal, the up-state New York and New England sections will require artificial heating in the mornings and evenings. The pick-up in fuel oil burner sales so far this year to levels approximating 1937 is certain to exert an upward pressure on consumption.

Bunker C fuel oil appears to be holding its market levels reasonably well in most sections, although Gulf Coast suppliers have retreated slightly from the peak quotation of 80 to 81 cents per barrel. Cargoes of Bunker C fuel oil are available in several directions on the Gulf at 78 cents per barrel and none is asking more than 80 cents.

At North Atlantic terminals the bunkering price remains firm at $1.05 per barrel and most shore plant operators are asking $1.15 per barrel from tank-wagon customers. There is no doubt, however, that the residual fuel oil market structure is slightly weakened since the middle of June. About the only petroleum product showing unqualified retreat from earlier price levels is wax. White scale was available at Pennsylvania refineries for 2.85 cents per pound, basis New York export. Other suppliers said they had dropped their prices only a tenth of a cent to 2.9 from the previous peak of 3 cents. New York wax exporters generally quoted 124-126 white scale at 2.85 to 2.9 cents and the same figures were generally asked by Gulf Coast refiners.

Bright stock in western Pennsylvania was reported in brisk demand and some refiners have increased their prices as much as a half-cent per gallon on 25-pourtest material. However, other sources are quoting at previous levels, resulting in a spread of the price range, but leaving the minimum and maximum practically unaltered. The price range for 25-pourtest bright stock in tankcars currently ranges from 15½ to 16½ cents per gallon. Neutral oils are unchanged at 15 to 17 cents.

Fear is growing that the petroleum industry is destined to carry a more abundant supply of motor fuel into the winter season than last year and buyers are watching this development with undivided attention. This prospect has exerted pressure on the cargo and tankcar market for several weeks and has prevented the price structure from compensating the record demand. The net result of price advances in the middle of June, most of which were not maintained, was a gain of .18 of a cent in the average price computed from postings at 50 representative cities.

A. P. I. Weekly Refinery Statistics

Week Ending July 22, 1939

	Capacity reporting (per cent)	Daily crude runs (bbl.)	Total gasoline stocks	Gas oil and fuel oil stocks
East Coast	100.0	561,000	20,744,000	10,504,000
Appalachian	85.9	109,000	3,270,000	623,000
Indiana, Illinois, and Kentucky	89.5	477,000	12,570,000	6,055,000
Oklahoma, Kansas, and Missouri	81.6	265,000	6,470,000	4,284,000
Inland Texas	50.3	129,000	1,638,000	2,210,000
Texas Gulf	89.5	804,000	9,202,000	11,094,000
Louisiana Gulf	97.3	138,000	2,131,000	2,650,000
North Louisiana and Arkansas	55.0	41,000	494,000	819,000
Rocky Mountains	54.2	42,000	1,401,000	705,000
California	90.0	482,000	14,915,000	95,098,000
Total reported	85.8	3,048,000	72,835,000	134,042,000
Estimated unreported	.....	347,000	5,125,000	3,135,000
*Estimated total	.....	3,395,000	77,960,000	137,177,000
*Estimated total previous week	.....	3,390,000	79,416,000	136,485,000
*July 23, 1938	.....	3,221,000	77,835,000	141,941,000

*Bureau of Mines, currently estimated.

Stocks of Crude Oil in the United States

(BUREAU OF MINES ESTIMATE)

Week ending July 15, 1939	268,119,000 barrels
Week ending July 8, 1939	269,348,000 barrels
Week ending July 16, 1938	289,312,000 barrels

Figures do not include stocks of heavy, unrefinable California crude.

XUM

Retail Oil Markets

Tank-wagon and filling station prices on gasoline and kerosene furnished by the larger marketing firms

Prices as of July 25, 1939

Taxes

The gasoline quotations given in the following tables include the 1-cent federal tax, as well as state, county, and city taxes. The gasoline is the regular or standard grade. In most areas lower grades and a premium grade also are available.

Standard Oil Co. (Indiana)

	Gasoline			Kero.
	Tank-wag.	Dir.	Inc. tax	tank-wag.
Chicago, Ill.	15.1	13.1	4.0	10.0
Decatur	15.1	13.6	4.0	10.0
Joliet	15.1	13.6	4.0	10.0
Peoria	15.1	13.6	4.0	10.0
Quincy	14.9	13.4	4.0	9.8
Davenport, Ia.	15.1	13.6	4.0	‡10.0
Des Moines	14.9	13.4	4.0	‡9.8
Mason City	15.3	13.8	4.0	‡10.2
Duluth, Minn.	16.9	15.4	5.0	10.8
Mankato	16.5	15.0	5.0	9.4
Minneapolis	16.5	15.0	5.0	10.4
LaCrosse, Wis.	16.5	15.0	5.0	10.4
Green Bay	16.9	15.4	5.0	10.8
Milwaukee	16.3	14.8	5.0	10.2
Detroit, Mich.	13.6	12.1	4.0	7.1
Grand Rapids	14.0	12.5	4.0	9.7
Saginaw	14.0	13.3	4.0	9.3
Evansville, Ind.	16.6	15.1	5.0	†10.5
Indianapolis	16.8	15.3	5.0	†10.7
South Bend	17.1	15.8	5.0	†10.0
Fargo, N. D.	17.7	16.2	5.0	11.6
Huron, S. D.	17.0	15.5	5.0	10.9
Kans. City, Mo.*	14.4	12.9	4.0	8.0
St. Louis*	14.7	13.2	4.0	8.0
St. Joseph	14.4	8.9	4.0	7.9
Wichita, Kans.	13.9	10.6	4.0	7.4

*State tax 2 cents, 1-cent city tax and 1-cent federal tax. †Does not include 4-cent state tax. ‡Does not include 3-cent state tax.

Exclusive of state general sales taxes.

Discounts to commercial consumers: On purchases per month off tank-wagon prices: 1,000 gallons or more, 1.5 cents off; minimum delivery 25 gallons.

Stanolex Fuel Oil in Chicago

Effective June 1, 1939, f.o.b. Chicago tank-wagon prices: Standard range oil, 1-99 gallons, 9 cents; 100-149 gallons, 8 cents; 150 gallons and over, 7.5 cents. Stanolex fuel oil No. 1, 1-149 gallons, 8.25 cents; 150-399 gallons, 7.25 cents; 400 gallons and over, 6.75 cents. Stanolex furnace oil, 1-149 gallons, 8.25 cents; 150-399 gallons, 7.25 cents; 400 gallons and over, 6.75 cents. Stanolex Grade A, 1-399 gallons, 5 cents; 400 gallons and over, 4 cents. Stanolex Grade B, 1-799 gallons, 5 cents; 800 gallons and over, 4 cents. Stanolex Grade C, 1-999 gallons, 4.25 cents; 1,000 gallons and over, 3.25 cents.

Ohio

STANDARD OIL CO. OF OHIO

	Gasoline			Kero.
	Tank-wag. con'r.	Divided dir.	Inc. tax	tank-wag.
Ohio points	16.0	15.0	5.0	*13.0

*Includes state tax of 1 cent.

Atlantic Coast District

STANDARD OIL CO. OF NEW JERSEY

	Gasoline			Kero.
	Cons. tank-car	Dir. tank-wag.	Inc. tax	tank-wag.
Atl'tic City, N. J.	10.9	12.7	4.0	7.0
Newark	10.9	12.7	4.0	7.0
Annapolis, Md.	12.85	14.35	5.0	9.5
Baltimore	12.25	13.75	5.0	7.0
Cumberland	13.65	16.15	5.0	10.0
Wash'gton, D. C.	10.50	12.0	3.0	9.5
Danville, Va.	14.45	16.95	6.0	12.9
Norfolk	13.25	15.75	6.0	10.5
Petersburg	13.55	16.05	6.0	11.7
Richmond	13.55	16.05	6.0	10.7
Roanoke	14.75	17.25	6.0	11.0
Charles'n, W. Va.	14.05	16.55	6.0	12.6
Parkersburg	13.35	14.85	6.0	11.2
Wheeling	14.35	15.75	6.0	12.2
Charlotte, N. C.	15.40	17.90	7.0	11.8
Hickory	15.95	18.45	7.0	12.3
Mt. Airy	15.80	18.30	7.0	12.2
Raleigh	15.15	17.65	7.0	11.5
Salisbury	15.45	17.95	7.0	11.9
Charleston, S. C.	14.25	16.75	7.0	10.6
Columbia	15.25	17.75	7.0	11.6
Spartanburg	15.95	18.45	7.0	12.4

Price basis to Esso lene undivided dealers: Dealer tank-wagon price less .5 cent per gallon. Price basis to commercial consumers, effective March 8, 1937, in Maryland, District of Columbia, and in Arlington and Fairfax counties in Virginia; and March 12 in New Jersey: To contract accounts purchasing at least one full compartment at time by hose connection, on yearly purchases; From 2,500 to 100,000 gallons, consumer tank-wagon price at time and place of delivery; 100,000 gallons per year, consumer tankcar price plus .5 cent per gallon. Consumer tank-wagon price generally will be equivalent to dealer tank-wagon price less .5 cent per gallon.

Effective January 16, 1939, in North Carolina the commercial consumer schedule became as follows: Single deliveries of 50 gallons or more, consumer tank-wagon price. Single deliveries of less than 50 gallons, 4 cents per gallon over consumer tank-wagon price. Generally the posted consumer tank-wagon price will be equivalent to the dealer price, less .5 cent per gallon. The above policy also applies in South Carolina effective January 23, 1939.

Discounts for kerosene, 1 cent off tank-wagon price for 25 gallons or more under contract (contract not necessary in Baltimore) except no discount in New Jersey.

Southern District

STANDARD OIL CO. (KENTUCKY)

	Gasoline			Kero.
	Cons'r. tank-wag.	Net dir.	Inc. tax	tank-wag.
Atlanta, Ga.	21.0	18.0	7.0	9.0
Augusta	20.0	17.0	7.0	9.0
Macon	19.0	16.0	7.0	10.0
Savannah	19.0	16.0	7.0	8.0
Birmingham, Ala.	21.0	18.0	8.0	8.5
Mobile	18.5	15.5	9.0	8.5
Montgomery	22.0	19.0	9.0	10.5
Jackson, Miss.	19.0	16.0	7.0	9.5
Vicksburg	19.0	16.0	7.0	9.0
Jacksonville, Fla.	20.0	17.0	8.0	8.0
Miami	19.5	16.5	8.0	8.0
Pensacola	21.0	18.0	9.0	8.0
Tampa	20.0	17.0	8.0	7.5
Lexington, Ky.	19.5	16.5	6.0	10.0
Covington	17.5	14.5	6.0	9.5
Louisville	18.5	15.5	6.0	9.0
Paducah	18.5	15.5	6.0	9.0

Price basis to tank-wagon consumers: Effective January 4, 1937; 3 cents per gallon below tank-wagon price.

Montgomery, Ala., has a county tax of 1 cent per gallon, and a city tax of 1 cent per gallon on gasoline, in addition to state tax and 1 cent per gallon on kerosene. Mobile, Ala., has a city gasoline tax of 2 cents per gallon; Birmingham, Ala., has a city gasoline tax of 1 cent per gallon; Pensacola, Fla., has a city gasoline tax of 1 cent. All are included in the table.

Pennsylvania and Delaware

ATLANTIC REFINING CO.

	Gasoline			Kero.
	Cons. tank-car	Dir. tank-wag.	Inc. tax	tank-wag.
Philadelphia, Pa.	12.0	13.5	5.0	10.0
Pittsburgh	13.0	14.5	5.0	10.5
Allentown	12.5	14.0	5.0	10.5
Erie	13.0	14.5	5.0	10.0
Scranton*	13.0	14.5	5.0	10.5
Altoona	13.0	14.0	5.0	10.5
Dover, Del.		14.0	5.0	10.5
Wilmington		13.5	5.0	9.75

Price basis to undivided dealers, dealer tank-wagon price less .5 cent per gallon.

*Voluntary discount of 1 cent per gallon allowed to dealers only at time of delivery.

New York and New England

SOCONY-VACUUM OIL CO., INC.

	Gasoline			Kero.
	Cons. tank-car	Dir. tank-wag.	Inc. tax	tank-wag.
Albany	11.5	13.5	5.0	7.00
*Met. N. Y.:				
Manhat., Bronx	11.6	13.0	5.0	6.75
Queens, Br'klyn	11.6	13.0	5.0	6.75
Staten Island	11.6	13.0	5.0	6.75
Buffalo	12.4	11.8	5.0	7.50
Rochester	12.6	14.0	5.0	7.75
Syracuse	12.2	13.5	5.0	7.25
Boston	10.5	12.25	4.0	6.50
Portland, Me.	11.5	12.8	5.0	6.75
Manchester, N. H.	12.2	14.2	5.0	7.25
Burlington, Vt.	12.0	11.5	5.0	7.25
Springfield, Mass.	11.2	12.5	4.0	6.00
Worcester	11.0	12.5	4.0	7.00
Hartford, Conn.	10.9	13.0	4.0	6.50
New Haven	10.8	12.25	4.0	6.00
Providence, R. I.	10.5	12.3	4.0	6.50

*Does not include 2 per cent city sales tax which is calculated on basis of net retail price exclusive of state and federal taxes. Metropolitan New York prices are undivided dealer prices; others are split dealer.

Effective February 15, 1939, the company changed its commercial consumer policy in New York and New England points for tank-wagon delivery to the following: Annual purchases 10,000 gallons and under, tankcar price plus 2 cents per gallon; annual purchases 10,000 gallons up to 50,000 gallons, tankcar price plus 1.5 cents per gallon; annual purchases 50,000 to 200,000 gallons, tankcar price plus 1 cent per gallon; annual purchases 200,000 gallons and over, tankcar price plus one-half cent per gallon. Private consumers pay undivided dealer price, plus 2 cents per gallon. Private consumers receiving full compartment deliveries of at least 200 gallons receive a discount of one-half cent per gallon.

Pacific Coast Territory

STANDARD OIL CO. OF CALIFORNIA

	Gasoline			Kero.
	Tank-truck	Serv. sta.	Inc. tax	tank-wag.
San Francisco	17.5	18.5	4.0	11.5
Los Angeles	17.0	18.0	4.0	10.0
Fresno, Calif.	18.5	19.5	4.0	12.5
Phoenix, Ariz.	20.0	21.0	6.0	*17.5
Reno, Nev.	20.5	21.5	5.0	13.5
Portland, Ore.	20.0	21.0	6.0	13.5
Seattle, Wash.	20.0	21.0	6.0	†13.75
Spokane	21.5	22.5	6.0	†16.75
Tacoma	20.0	21.0	6.0	†13.75

*Includes 5-cent state tax. †Includes .25-cent state tax.

Discounts to dealers: On gasoline, off tank-wagon price, to 100 per cent dealers, 3 cents. To commercial consumers: On tank-wagon price; on single deliveries of 40 gallons and over, advance quantity discount extended at time of delivery, 3 cents. Service station schedule applies on single deliveries less than 40 gallons. On kerosene in tankcar, transport truck and trailer delivery, 3 cents off tank-wagon price; plant deliveries to jobbers, 2.5 cents below tank-wagon.

March 18, 1939, split dealer discount was canceled.

Rocky Mountain District

CONTINENTAL OIL CO.

	Gasoline			Kero.
	Tank-wag.	Dir.	Incl. tax	tank-wag.
Denver, Colo.	15.5	...	5.0	11.5
Grand Junction	18.0	...	5.0	15.0
Pueblo	16.0	...	5.0	9.0
Casper, Wyo.	17.0	...	5.0	11.5
Cheyenne	15.0	...	5.0	13.0
Billings, Mont.	18.0	...	6.0	13.0
Butte	19.5	...	6.0	15.5
Great Falls	19.0	...	6.0	15.5
Helena	20.0	...	6.0	15.5
Salt Lake, Utah	17.0	17.0	5.0	16.0
Boise, Idaho	20.1	20.1	6.0	18.0
Twin Falls	20.6	20.6	6.0	18.0
Albu'que, N. M.	17.0	17.0	6.5	10.0
Roswell	15.5	15.5	6.5	8.0
Santa Fe	17.5	17.5	6.5	10.0

*Includes city tax of .5 cent. †Includes state tax of 1 mill.

Tank-wagon represents price to consumers. Dealer represents price to dealers. If no dealer price is quoted, the tank-wagon price applies to all classes of trade.

Central South District

STANDARD OIL CO. OF LOUISIANA

	Gasoline			Kero.
	Cons. tank-car	Dir. tank-wag.	Inc. tax	tank-wag.
New Orleans, La.	16.75	19.25	*10.0	†11.0
Baton Rouge	14.75	17.25	8.0	‡10.5
Alexandria	14.75	17.25	8.0	‡12.5
Lafayette	15.00	17.50	8.0	‡11.0
Lake Charles	14.75	17.25	8.0	‡12.5
Shreveport	13.50	16.00	8.0	‡11.0
Knoxville, Tenn.	18.00	20.50	8.0	14.5
Memphis	16.00	18.50	8.0	11.0
Chattanooga	16.00	19.50	8.0	14.0
Nashville	17.00	19.50	8.0	12.0
Bristol	18.25	17.00	1.0	13.0

Esolene at dealer price less .5 cent per gallon to undivided dealers.

*Includes 2-cent parish tax. †Includes 1-cent parish tax and 1-cent state tax. ‡Includes 1-cent state tax.

Price basis to commercial consumers: Effective May 15, 1937, deliveries of 50 gallons or more in one territory take posted consumer tank-wagon prices. Accounts taking deliveries of less than 50 gallons at one time pay posted consumer tank-wagon price plus 4 cents per gallon. Generally, the posted consumer tank-wagon price will be equivalent to the dealer price less .5 cent per gallon. Kerosene prices include 1-cent state tax.

Effective February 24, 1939, the company reestablished in New Orleans the commercial consumer policy on motor fuel effective in the rest of the state.

Effective December 12, 1938, the company revised its commercial consumer policy on motor fuel in New Orleans, as follows: Single deliveries of less than 50 gallons, consumer tankcar plus 2 cents per gallon; 50 to 199 gallons, consumer tankcar plus 1 cent per gallon; 200 gallons and over, consumer tankcar plus .5 cent per gallon.

Nebraska

STANDARD OIL CO. (NEBRASKA)

	Gasoline			Kero.
	Tank-Wag.	Dir.	Inc. tax	tank-wag.
Omaha	17.5	16.0	6.0	10.3
McCook	16.5	13.5	6.0	9.0
Norfolk	17.0	15.9	6.0	9.0
North Platte	18.3	16.8	6.0	11.1
Scottsbluff	18.0	15.9	6.0	11.0

Discounts to commercial consumers for tank-wagon deliveries covered only by standard commercial consumers contract, effective January 1, 1935.

Oklahoma and Arkansas

CONTINENTAL OIL CO.

	Gasoline		Kero.
	Tank-wag.	Includes tax	tank-wag.
Texarkana, Ark.	14.0	5.0	8.0
Fort Smith	14.0	5.0	7.5
Little Rock	16.75	7.5	8.0
Muskogee, Okla.	13.0	5.0	7.0
Oklahoma City	13.0	5.0	6.5
Tulsa	13.0	5.0	7.0

The tank-wagon price is the price to all classes of trade.

Texas

	Gasoline			Kero.
	Tank-wag.	Serv. sta.	Inc. tax	tank-wag.
Dallas, Tex.	14.0	18.0	5.0	7.0
Fort Worth	14.0	18.0	5.0	8.0
Houston	14.0	18.0	5.0	8.0
San Antonio	14.0	18.0	5.0	8.0

Naphtha

STANDARD OIL CO. (INDIANA)

	Tank-wagon*
Oleum spirits	15.7
V.M.&P. naphtha	16.0
Cleaners' naphtha	15.0
Stanisol	15.0

*Prices include 3-cent Illinois tax but not 1-cent federal tax or 2 per cent retail occupational tax.

Prices f.o.b. Chicago. Each price subject to discount of 1 cent per gallon for 150-gallon lots if covered by contract.

Canada*

3-Star Imperial Gasoline
IMPERIAL OIL, LTD.

	Tank-wag.	Inc. tax	Kero. tank-wag.
Halifax, N. S.	23.5	10.0	17.5
St. John, N. B.	23.5	10.0	17.5
Montreal, Que.	22.0	8.0	14.5
Toronto, Ont.	23.0	8.0	15.5
Hamilton, Ont.	23.0	8.0	15.5
Winnipeg, Man.	26.5	7.0	20.5
Brandon, Man.	28.0	7.0	22.0
Regina, Sask.	26.0	7.0	22.0
Saskatoon, Sask.	28.3	7.0	24.0
Edmonton, Alta.	26.5	7.0	21.5
Calgary, Alta.	23.5	7.0	19.0
Vancouver, B. C.	23.0	7.0	23.0
	12.3	12.3	12.3

*Imperial gallon used in Canada.

Divided dealers pay tank-wagon prices. Discount to undivided dealers, 1 cent below tank-wagon price. In maritime provinces both divided and undivided dealers pay tank-wagon price.

Tank-Wagon Changes

Standard Oil Co. of New Jersey July 12 reduced tank-wagon kerosene 1 cent in Norfolk.

Socony-Vacuum Oil Co., Inc., July 14 reduced dealer tank-wagon gasoline 1.5 cents in Burlington.

Standard Oil Co. (Kentucky) July 12 reduced consumer tank-wagon and net dealer gasoline .5 cent in Miami; July 10, reduced tank-wagon kerosene .5 cent in Tampa.

Standard Oil Co. of California July 13 reduced tank-truck and service station gasoline 1.5 cents in Phoenix.

Crude Oil Price Changes

The Tri-Lakes Pipe Line Co. on July 17 advanced the price of Bloomingdale field crude in Van Buren County, Michigan, 5 cents per barrel to a new price of 83 cents. On July 19 Naph-Sol Refining Co. met the Tri-Lakes price.

Prices of Refined Products

All quotations f.o.b. plant in cars for interstate or export movement except as otherwise noted

Prices as of July 25, 1939

The following quotations are exclusive of the federal excise taxes of 1 cent a gallon on gasoline and 4 cents a gallon on lubricating oils.

Refinery Gasoline

OKLAHOMA (Group 3)—

U. S. Motor grades:	
62 octane and below	.04½
63-66 octane	.04½
67-69 octane	.04¾
70-72 octane (regular)	.05
60-62 400 grades:	
62 octane and below	.04½
63-66 octane	.04½
67-69 octane	.04¾
70-72 octane (regular)	.05
64-66 375	.04¼
68-70 360	.05

NORTH TEXAS—

U. S. Motor grades:	
62 octane and below	.04½
63-66 octane	.04½
67-69 octane	.04¾
70-72 octane (regular)	.05
60-62 400	.04½
64-66 375	.04¼

NORTH LOUISIANA (Ark. and N. La. delivery)—

U. S. Motor grades:		
62 octane and below	.04½	.04¾
63-66 octane	.04½	.04¾
67-69 octane	.04¾	.04¾
70-72 octane (regular)	.05	.05¼

ARKANSAS (Ark. and N. La. del.)—

U. S. Motor grades:		
62 octane and below	.04½	.04¾
67-69 octane	.04¾	.05¼
70-72 octane	.05¼	.05½

CHICAGO (Based on Group 3)—

U. S. Motor grades:		
62 octane and below	.04¼	.04¾
63-66 octane	.04½	.04¾
67-69 octane	.04¾	.04¾
70-72 octane (regular)	.05	.05½
60-62 400 grades:		
62 octane and below	.04¼	.04¾
63-66 octane	.04½	.04¾
67-69 octane	.04¾	.04¾
70-72 octane (regular)	.05	.05½
64-66 375	.04¼	.04½
68-70 360	.05	.05¼

PENNSYLVANIA (Inland refineries)—

58-60 U. S. Motor:		
Below 60 octane	.04½	.05
65 octane	.06¼	.06¾
68-70 octane		.06½

CALIFORNIA (domestic movement)—

54-58 U. S. Motor	.06¼	.08
58-60 400, 65 oct. and higher	.07¼	.09

EAST COAST (domestic)—

U. S. Motor, 65 and above:		
*New York (Bayonne)	.06	.06¼
Philadelphia	.06	.06¼
Baltimore	.06	.06¼
Charleston, S. C.	.06½	.06¾

*All grades of gasoline ⅛ to ¼ cent less for barge shipments. New York Harbor prices are for New York and New England delivery. Prices for New Jersey delivery ⅛ cent lower.

GULF COAST (domestic)—

U. S. Motor grades:		
Below 60 octane	.04½	.04¾
65-67 octane	.05	.05¼
68-70 octane	.05½	.05¾

Naphtha

PENNSYLVANIA (Inland refineries)—

52-56 450 (blending)	.04¼	.04½

Natural Gasoline

OKLAHOMA (Group 3)—

Grade 26-70	.02¾
Grade 18-55	.03¼

NORTH TEXAS—

Grade 26-70	.02¾
Grade 18-55	.03¼

CALIFORNIA—

75-85 375-390	.06	.06¾

NORTH LOUISIANA (Ark. and N. La. delivery)—

Grade 26-70	.03½

Tractor Fuel

OKLAHOMA (Group 2)—

40-42 gr., 315-325 l.b.p., 110-flash, 540-550 e.p.	.03¾	.03¾
41-43 gr., 300-320 l.b.p., 110-125 flash, 500-520 e.p.	.03½	.03¾
46-48 gr., 210-230 l.b.p., 480-max., e.p.	.03¾	.04½

Kerosene

(All kerosene water white)

OKLAHOMA (Group 3)—

41-43	.03¾	.03½
42-44	.03¾	.03¾

NORTH TEXAS—

41-43	.03¾	.03½

NORTH LOUISIANA (Ark. and N. La. delivery)—

41-43	.03¾	.04

ARKANSAS (Ark. and N. La. del.)—

41-43	.04½	.04½

PENNSYLVANIA (Inland refineries)—

45	.04⅞	.05
46	.05	.05½
47	.05½	.05¾

CHICAGO (Based on Group 3)—

41-43	.03½	.03¾
42-44	.03¾	.03¾

CALIFORNIA (Pac. Coast market)—

38-43 high burning test	.04¾	.05¾

NEW YORK (Bayonne, N. J.)—

41-43		.04¾

***GULF COAST (domestic)—**

41-43		.03½

*Barge price ⅛ cent lower.

Furnace Oil

OKLAHOMA (Group 3)—

Range oil	.03¾	.03½
No. 1 prime white, 38-42	.03¼	.03¾
No. 1 straw, 38-40	.03	.03¼
No. 2 straw, 32-36	.02¾	.02¾
No. 2 dark, 32-36	.02¾	.02¾
No. 3 zero to 15, 28-32	.02¼	.02¾
No. 3, 15 and above, 28-32	.02¾	.02½

NORTH TEXAS—

No. 1 prime white, 38-42	.03½	.03¼
No. 1 straw, 38-40	.03	.03¼

NORTH LOUISIANA (Ark. and N. La. delivery)—

No. 2, 32-36		.03

ARKANSAS (Ark. and N. La. del.)—

No. 2, 32-36		.03¾

CHICAGO (Based on Group 3)—

Range oil	.03½	.03¾
No. 1 prime white, 38-40	.03½	.03¾
No. 1 straw, 38-40	.03¾	.03½
No. 2 straw, 32-36	.03¼	.03¾
No. 2 dark, 32-36	.03½	.03¾
No. 3, zero to 15, 28-32	.03	.03¼
No. 3, 15 and above, 28-32	.02¾	.02¾

NEW YORK (Bayonne, N. J.)—

*No. 1	.04	.04½
*No. 2		.03¾
*No. 4		.03¾

*Barge deliveries ⅛ to ¼ cent under above tankcar price.

Gas Oil and Fuel Oil

(Gas oil per gal., fuel oil per bbl.)

OKLAHOMA (Group 3)—

U.G.I. gas oil	.02½	.02¾
No. 4 low pourpoint, 24-28	.90	1.00
No. 4, 15 and above, 24-28	.80	.90
No. 5, low pourpoint, 18-22	.70	.75
Below 14 fuel oil, industrial	.40	.50

NORTH TEXAS—

U.G.I. gas oil	.02½	.02¾
No. 4, low pourpoint, 24-28	.90	1.00
No. 5, low pourpoint, 18-22	.70	.75
Below 14 fuel oil, industrial	.40	.50

NORTH LOUISIANA (Ark. and N. La. delivery)—

10-14 fuel oil, industrial	.70	.75

CHICAGO (Based on Group 3)—

U.G.I. gas oil	.02¾	.02¾
No. 4, low pourpoint, 24-28	1.00	1.10
No. 4, 15 and above, 24-28	.85	.95
No. 5, low pourpoint, 18-22	.70	.80
No. 5, 15 and above, 18-22	.80	.70
No. 6, low pourpoint, 10-16	.60	.70
No. 6, 15 and above, 10-16	.55	.45

PENNSYLVANIA (Inland refineries)—

38-40	.04½	.04¾

CALIFORNIA—

Los Angeles:		
30-40 gas oil, per bbl.	1.10	1.30
24 plus Diesel, per bbl.	.80	1.15
24 plus Diesel (bunkers)	1.15	1.30
12-16 (bunkers at tidewater)	.70	.90
10-16 (cargo lots)	.60	.70
12-17 (tankcars)	.45	.75
10-17 (high sulfur)	.45	.85
San Joaquin Valley:		
10-18 (tankcars)	.50	.75
24 plus Diesel, per bbl.	.90	1.20
San Francisco:		
24 plus Diesel, per bbl.	1.30	1.45
24 plus Diesel (bunkers)	1.35	1.55
10-16 (bunkers)	.90	.95

GULF COAST—

No. 2 fuel	.03½	.03¼
43-47 Diesel		.03¼
48-52 Diesel	.03¼	.03¾
53-57 Diesel	.03¾	.03½
Bunker C (bulk cargoes)	.77	.80
Bunker C (bunkers)	.80	.85

NEW YORK (Bayonne, N. J.)—

27 plus, gas oil		.03¾
28-30 Diesel (lighterage 6¼c per bbl.)		1.65
28-30 Diesel (tankcars)	.04	.04¼
Bunker C (to ocean-going ships in N. Y. Harbor)		1.05
Industrial fuel (tankcars)		.03¼

Lighterage charge 5c bbl. additional.

Bright and Steam Refined

OKLAHOMA (Group 3)—

190-200 D, 15-25		.19
150-160 D, 0-10	.14¼	.16
150-160 D, 15-25	.13½	.15½
150-160 E, 15-25	.13	.15
100-110 D, 0-10		.14½
Steam-refined:		
631 green (treated)		.12½
600 dark green (untreated)	.04½	.05

PENNSYLVANIA—

Bright Stocks (Pennsylvania Grade No. 8 color, 140-150 at 210, 545-550 flash):		
10 pourpoint	.18	.18½
15 pourpoint	.17	.17½
25 pourpoint	.15½	.16
Steam-refined:		
600	.08½	.10
650	.10½	.11
600 flash	.11	.12
630 flash	.13½	.14

Neutral Oil

(Vis. at 100° F. except Pennsylvania and color N.G.A.)

OKLAHOMA (Group 3)—

150-3		.09
180-3		.10
180-4		.09½
200-3		.10½
200-4		.10
250-3		.11½
250-4		.11
280-3		.12½
280-4		.12
300-6½		.13
400-3½		.14
100-2½ paraffin oil		.06
15-20 pourpoint:		
200-3		.10
200-4		.09½
250-3		.11
250-4		.10½
280-3		.12
280-4		.12½

GULF COAST—

Pale oils:		
200-3	.07	.07¼
300-3	.07¼	.07½
500-3½	.08¼	.08¾
750-3½	.08¾	.09¼
1,200-3½	.09¼	.09¾
1,500-4	.09¾	.10
Red oils:		
200-5-6	.07¼	.07½
300-5-6	.07¾	.07¾
500-5-6	.08	.08¼
750	.08¾	.09
1,200-5-6	.09¼	.09½

CALIFORNIA (moving to dom. market)—

Pale oils:		
100-2½-3	.07¼	.08
200-2½-3	.07¼	.08
300-2½-3	.07¼	.08
400-3-4	.07¼	.08
450-3-4	.07¼	.08
550-3-4	.09	.11
600-3-4	.09	.11
Red oils:		
200-4-5	.07¼	.08
300-5-6	.07¼	.08
350-5-6	.09¼	.11½
400-5-6	.09¼	.11½
450-5-6	.09¼	.11½
500-5-6	.09¼	.11½
600-5-6½	.09¼	.11½
700-6½ plus	.09¼	.11½
750-6½ plus	.09¼	.11½
900-6½ plus	.09¼	.11½

PENNSYLVANIA—

150 vis. at 70° F., 3 color, 400-405 flash:		
Zero pourpoint	.18½	.19
10 pourpoint	.18	.18½
15 pourpoint	.16½	.17
25 pourpoint	.15	.15½
200 vis. at 70° F., 3 color:		
Zero pourpoint	.19½	.20
10 pourpoint	.19	.19½
15 pourpoint	.18½	.19
25 pourpoint	.17	.17½

Wax and Petrolatum

(Prices per pound)

OKLAHOMA (Group 3)—

124-126 (a.m.p.) w.c. scale	.0285	.03

PENNSYLVANIA (Inland refineries)—

122-124 (a.m.p.) w.c. scale	.0290	.03
124-126 (a.m.p.) w.c. scale	.0290	.03

NEW YORK—

Wax in bags fully refined:		
122-125 (a.m.p.) wax		.0350
125-127 (a.m.p.) wax		.0360
128-130 (a.m.p.) wax		.0375
130-132 (a.m.p.) wax		.0435
133-135 (a.m.p.) wax		.0465
135-137 (a.m.p.) wax		.0490
124-126 (a.m.p.) w.s.	.0290	.03
124-126 (a.m.p.) y.s.	.0295	.03
Petrolatum in barrels, carload lots:		
Dark green	.02	.02¼
Amber	.02¾	.02½
Extra amber	.02½	.02¾
Lily white	.05¼	.05½
Snow white	.06¼	.06½
Cream	.04½	.04¾

Export Prices

GASOLINE

GULF COAST—

U. S. Motor	.04¼	.04¾
60-62 400	.04¾	.04½
65 octane	.04¾	.05
68 octane	.05¼	.05¼
70 octane	.05¼	.05¾

LOS ANGELES—

U. S. Motor grades:		
55-65 octane	.04¼	.04½
65-69 octane	.04½	.04¾
Above 69 octane	.04¾	.05¼

KEROSENE

GULF COAST—

41-43 prime white		.03¼
41-43 water white		.03½

LOS ANGELES—

41-43 water white	.05	.05¼

LUBRICANTS

(Pennsylvania Grade)

NEW YORK (c.a.s. in bbls.)—

Cylinder stocks:		
600 Warren E	.15	.15½
600 S.R. unfiltered	.16	.16½
630 S.R. unfiltered	.17	.17½
600 flash, S.R.	.17	.17½
630 flash, S. R.	.20½	.21
Bright stocks:		
8 color	.16¼	.16½

NEUTRAL OIL

200-3 color	.21½	.22
150-3 color	.19½	.20

PARAFFIN WAX

NEW YORK (prices per pound)—

123-125 a.m.p.		.0375
125-127 a.m.p.		.0387
128-130 a.m.p.		.0412
133-135 a.m.p.		.0437
135-137 a.m.p.		.0458
Crude scale:		
124-126 w.s.	.0290	.03
124-126 y.s.	.0295	.03

CLASSIFIED ADVERTISING

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4192 ACRES covering structure located and mapped by Geo. Butts of U. S. Geological Survey. Shallow Wilcox-Sunnybrook sands, area, Tenn.-Ky. field. N. M. Sauls, Geologist, Cookeville, Tennessee.

Leases and Drilling Blocks

WANTED man to drill on percentage basis, Pontotoc Co. northeast of Ada, Oklahoma. Clear title. Address Box K-182, The Oil and Gas Journal, Tulsa, Okla.

210 ACRES near well now rigging up, Lagrange County, Indiar , near Michigan line. Few smaller leases reasonable by owner and drilling pro; osition 10 miles northeast of me.
J. W. HUNT, Lagrange, Ind.

CENTRAL MO. blocks on ten year commercial leases, 25c rental, also scattered acreage. Walter Erwin, Brookfield, Mo.

IN FOREST City Basin, Kansas, Block 700 acres. Never drilled. In shallow producing area. Gas wells offset. Pipe lines at hand. 8-cent gas market. Will assign part or all, $1.00 per acre. Also block 1200 acres undrilled with opportunity develop shallow oil—gas to pay for deeper testing. Assign part or all at $1.00 per acre. Snap buys.
H. B. Buddenborg, Osawatomie, Kans.

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OIL industry accountant, over 20 years' experience in production, pipe line, crude oil refinery and natural gasoline refinery. Competent tax man. Best. refs. A. F. Clark, 1605 N. Kentucky, Oklahoma City, Okla.

EXPERIENCED salesman with facilities for contacting and selling oil companies in Southwest Texas is open for high type line to be sold either direct or through supply companies, on commission basis. Address Box K-202, The Oil and Gas Journal, Tulsa, Okla.

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TULSA LOAN BUILDING, TULSA

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Equipment Wanted

CLEAN OUT RIG WANTED
Power mounted on rig and tractor type preferred. Quick moving and setting up and good for 2500' clean-out work. Give particulars, price and location. W. M. SAYRE, Osage, Wyoming.

WANTED—at once a spudder complete drilling tools, engine capable drilling 3000 ft. CASH DEAL. F. E. Hunt, Adair, Iowa.

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THE OIL AND GAS JOURNAL
Tulsa, Oklahoma

COMPLETE KELLOGG CRACKING UNIT

3000 bbl. cap. Kellogg Cracking Unit—Two Furnaces—Pacific Centrifugal Charging Pumps all Complete.

Will sell "as is and where is" or take turnkey job for dismantling and reerection.

Send us your inquiries.

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25 K.W. and 40 K.W. Gas Engines, 220 volts, D.C. Two 100 K.W. Gas Engine-Generator Sets, 220 volts, D.C. 7x6 Ingersoll-Rand ER-1 Air compressor. Six-inch Oster Pipe Threading Machine. Also large stock of lathes, pipe machines, milling machines, etc. Send for our list.

Terms to suit.

CINCINNATI MACHINERY & SUPPLY CO.
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USED BOILERS—INSPECTION GUARANTEED
35 HP to 90 HP treating boilers
80 HP to 150 HP Scotch Marines
138 HP to 600 HP Water Tube
TEXO EQUIPMENT CO.
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FOR SALE: At Oklahoma City—OCS single brake and Grayhound twin brake sand reels. I. T. I. O., Bartlesville, Okla.

FOR SALE: Cummins Diesel Engine, 150 H.P., used very little. Cost $6,000.00, our price $2,400.00. General Machine & Supply Company, Wichita Falls, Texas.

IF YOU buy or sell royalties, leases or production, DON'T FAIL to check each item listed in these classified columns. They comprise the best medium of exchange available to you.

Classified Department.

USED 4" drill pipe, from 50 cents to $1.00 per foot. Other good used rotary equipment. E. E. Finefrock, 2216 No. Jordan, Oklahoma City, Oklahoma.

NO. 2 National Drilling Machine. Tools from 10" down. Motor & jack shaft. Like new. Address Box K-201, The Oil and Gas Journal, Tulsa, Oklahoma.

FOR SALE

50,000 feet of 2" line pipe.
20,000 feet of 6" line pipe.
Located in Oklahoma.
We also have in Shreveport, Louisiana, a complete stock in all sizes —Line Pipe, Casing, Drill Pipe.
Branches in La-Ark-Tex area; also at St. Elmo, Illinois.
Wire, write or phone.

Louisiana Iron & Supply Company
Shreveport, Louisiana

What Have You FOR SALE ?

Let the Journal help you sell your used equipment, lease, royalty, or service you are offering the oil industry. It will outsell anything you have ever tried before and at a very nominal cost.

Classified Department

The Oil and Gas Journal
TULSA, OKLAHOMA

RECORD DEMAND

(Continued from Page 57)

able California Arabian Standard Oil Co., subsidiary of Standard Oil Co. of California, to increase materially recovery from Dammam field, where prolific wells are completed at approximately 4,700 ft.

The geological and geophysical exploratory efforts in Palestine and Egypt were among the features of the first half year's activity in the Persian Gulf and Mediterranean Sea regions.

Unconfirmed but highly credited reports are that Iraq Pipe Line Co. will approximately double its transportation facilities to Mediterranean ports within the reasonably near future, thus providing an outlet for discovered but unproduced reserves in Iraq.

Construction of a new pipe line has been approved by Anglo-Iranian Oil Co., Ltd., from the Gach Saran field to Bandar Shapur, where a refinery will be constructed. The pipe line will move Gach Saran production about 75 miles to the refinery, which will be about 30 miles east of Abadan. When Gach Saran production becomes available for world markets, the decline in Iran's output will be arrested.

Although Mexican production was 1,208,000 bbl. behind 1938 output, the decline was not as precipitous as expected. The daily average yield of 99,724 bbl. in the first half of 1939 was attained largely through willingness of the Mexican Petroleum Argency to barter petroleum for manufactured articles and industrial equipment from Germany and Italy. Pemex, the government oil agency, is currently delivering petroleum to Italy against future delivery of three tankers and is accepting a wide variety of manufactured articles from Germany in trade for oil. For three of the first 6 months of 1938, when Mexican oil production averaged 106,398 bbl. daily, the important properties were in the hands of private companies. Since the confiscation, several export markets have been closed to Mexican oil, with demand diverted to Venezuela, Netherland East Indies, and other countries.

Confusion continues in Mexico, with workers registering increasing dissatisfaction over failure of the government to institute wage increases, failure in payment of which precipitated the confiscation. In addition to marketing difficulties, the Mexican Government oil agency is experiencing trouble in obtaining adequate supplies of drilling, maintenance, and refinery-repair equipment because of economic conditions irritated by the barter system of trade.

Rocky Mountain Area

(Continued from Page 202)

Alex Beaton No. 1, CSL SE SE Sec. 23-6n-23e. Drlg. 1, 600 ft. in 8¼-in. hole.
V. M. Kirk No. 1 Robinson, SW SW NW Sec. 2-7s-21e. T.D. 2,029 ft.; rng. 10¾-in. to bttm.
Miracle Oil Co. No. 2 Govt., CWL NE SE Sec. 3-6s-23e. T.D. 2,381 ft.; fsg.; tools at 1,600 ft.

Fallon County

Montana-Dakota Utilities Co. No. 137 Government Unit 7, NE SW SW Section 10-6n-60e, Baker-Glendive field, was completed at 924 ft. for 800,000 cu. ft. of gas per day from sand in the Judith River at 825-920 ft.

Montana-Dakota Utilities Co. No. 138, C NE Sec. 9-6n-60e. Drlg. 965 ft.; 7-in. at 885 ft.; (first report).
Montana-Dakota Utilities Co. No. 79, NE SW SW Sec. 23-6n-60e. Drlg. 500 ft.; 10¾-in. at 100 ft.; (first report).

Fergus County

Emmons et al No. 5 Stocker, SW NW SW Sec. 24-22n-18e. T.D. 960 ft.; rep. roads to res.

Glacier County

Cut Bank had two completions and one new operation.

Santa Rita Oil & Gas Co. No. 2 Stahl, C NW SW Section 21-33n-5w, swabbed 247 bbl. the first 15 hours at 2,996 ft., total depth, from the lower Cut Bank at 2,979-91 ft. The Sunburst at 2,885-2,930 ft. had shows of oil at 2,885-2,900 ft. and 2,915-30 ft.

A. B. Cobb No. 1 Vargo, C SE NE Section 19-37n-4w, a test in North Cut Bank, a mile north and west of his No. 1 State, which made 40,000,000 cu. ft. of gas initially, was drilled to 2,753 ft. and is plugging back to the base of the Sunburst to complete as a gas well.
Santa Rita O. & G. Co. No. 3 Stahl, C NE SW Sec. 21-33n-5w. R.U.; (first report).
Santa Rita O. & G. Co. No. 1 Miller, CWL SW NE Sec. 29-33n-5w. Drlg. 2,000 ft.
A. R. Pardue No. 3 Tribal-171, NW SE SW Sec. 7-32n-5w. Spdg. 180 ft.
Glacier Prod. Co. No. 2 Hall, C NE SW Sec. 35-36n-6w. Drlg. 1,370 ft.; Colo. 680 ft.; 10¾-in. at 707 ft.
Cobb-Reagen No. 4 Jackson, SW SW NE Sec. 5-32n-5w. Drlg. 150 ft.
Glacier Prod. Co. No. 1 Hendrickson, C NW NE Sec. 28-33n-5w. Drlg. 2,275 ft.
Kistner-Watson No. 2 Britton, SW SE SE Sec. 14-34n-5w. Cmtd. 10¾-in. at 538 ft.; Colo. 505 ft.
Huber-Montana Co. No. 1 Krueger, CWL SW SE Sec. 11-37-5w. Cmtd. 7-in. at 2,600 ft.; cd. Sunburst at 2,600-40 ft.; showed streaks of sat. sd., but no oil when bailed down.
Texas Co. No. 4 Curran, C NE NE Sec. 8-32n-5w. T.D. 2,960 ft.; ran 7-in.
Texas Co. No. 4 State, C NW NW Sec. 16-32n-5w. Drlg. 2,660 ft.
Par Oil Co. No. 2 Tribal-170, SW NE SW Sec. 7-32n-5w. Drlg. 775 ft.; Colo. 405 ft.; 10¾-in. at 500 ft.
Glacier Prod. Co. No. 1 Jaeger, C NW NW Sec. 15-32n-5w. T.D. 2,670 ft.; fsg.
R. C. Tarrant No. 8 Getty, CWL NW SE Sec. 15-34n-6w. Drlg. in at 2,955 ft.
R. C. Tarrant No. 3 Yunck, SW SW NW Sec. 12-34n 6w. Drlg. 2,500 ft.

Liberty County

Coolidge & Coolidge No. 1 Forseth, CWL SW NW Sec. 8-35n-4e. R.U.; (cor. loc.).

Meagher County

Dan Drumheller No. 1 Moss Agate, SW SE NE Sec. 25-7n-7e. T.D. 1,120 ft.; pulled 8¼-in. and S.R. to S.O. W. at 740 ft. and 1,045 ft.

Teton County

R. C. Tarrant No. 1 Hoeschen, NE SE Sec. 34-27n-5w. R.U.

Toole County

Kevin-Sunburst had one completion and two new operations.

Texas Co. No. 8 Swears, CEL SE Section 9-35n-2w, pumped 78 bbl. the first 24 hours at 1,630 ft., total depth, from the contact at 1,628-30 ft. after acidizing with 1,000 gal.

W. E. Rice Co. No. 4 Kearns-Lease 8, C W½ E½ SE Sec. 18-35n-2w. Spdg. 80 ft.; (first report).
Coolidge & Coolidge No. 7 Shaw, NE SE NE Sec. 35-36n-2w. Drlg. 982 ft.; (first report).
G. M. Plotke No. 3 Ward, CWL SW SW Sec. 28-35n-3w. Spdg.
Big West Oil Co. No. 10 Dahlquist, CNL SW SE Sec. 21-35n-3w. T.D. 1,765 ft.; contact 1,750 ft.; good S.O. in break at 1,763-65 ft.; acd. 1,000 gal.; prep. to test.
Art Crabtree No. 1 Thompson, NE SE NW Sec. 35-35n-2w. Drlg. 1,594 ft.; 300 ft. wtr. at 1,523 ft.
R. G. Parrant No. 1 Holbrook, C NW NE Sec. 2-36n-3w. S.D. 160 ft.
Ramona Oil Co. No. 3 Govt., CWL NE NW Sec. 12-35n-3w. T.D. 1,563 ft.; Sunburst 1,545-63 ft.; C.O. to shoot.
Huso Bros. No. 1 Elingson, C NE SW Sec. 14-35n-3w. Drlg. 1,495 ft.
Fulton Pet. Co. No. 3 Thompson, SE NE NW Sec. 28-35n-3w. T.D. 1,825 ft.; P.B. to 1,790 ft.; will acd. at 1,785-90 ft.
Pfabe & Engleking No. 3 Hurley, near C NW NE Sec. 8-34n-2w. T.D. 1,463 ft.; contact 1,455 ft.; wtr.; P.B. to 1,460 ft.; acd. 650 gal.; tstg.
Superior Pet. Co. No. 8-A Govt., CEL NW NE Sec. 12-35n-3w. Drlg. 1,720 ft.
W. M. Cassidy No. 1 Phoenix, CNL NW NW Sec. 28-35n-4w. S.D. after D.D. into sat. Mad. L. at 2,325-58 ft.

Yellowstone County

Nelson Story-Hogan, Ltd., No. 1 Stallinberger, NE NE SW Sec. 18-3n-23e. T.D. 5,129 ft.; R.U. to res.; (formerly Signal O. & G. Co.).
Riverton Oil Co. No. 1 Fox, CEL NW NE Sec. 14-2n-23e. Res.; T.D. 1,975 ft.; U.R. 8¼-in. from 1,900 ft. to bttm.

UTAH

Box Elder County

Northern Oil Co. No. 1, C NE SW Sec. 17-13n-4w. Drlg. 125 ft.; prep. to run 20-in.

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